DOCUMENT RESUME

ED 083 135 SP 006 892

TITLE	Individualized Instruction: Selected Elements, Programs, and Instructional Materials.
INSTITUTION	Texas Information Service, Austin.
PUB DATE	[72]
NOTE	105p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	Behavioral Objectives; Flexible Scheduling; *Individualized Instruction; Information Sources; *Instructional Aids: *Instructional Materials; *Protocol Materials

ABSTRACT

This information package was developed by the Texas Information Service (TIS) to provide Texas educators with practical information on individualizing instruction. In addition to information on programs and practices, items on related concepts and instructional materials were included. The general contents of the package were divided into two groups: a) reprints, summaries, transparency masters; and b) resource materials. A chart with the title of each item in the package was also presented indicating the primary user group for which it was intended: administrator, teacher, parent, or teacher trainer. An update to the package was also included, listing the 1973 demonstration schools in individualized instruction, a 1972 annotated bibliography on individualizing instruction, Regional Service Center Materials, and the 1972 10X Catalog of Objectives Collections and related materials. (Author/BRB)

FILMED FROM BEST AVAILABLE COPY

INDIVIDUALIZED INSTRUCTION: SELECTED ELEMENTS, PROGRAMS, AND INSTRUCTIONAL MATERIALS

ED 083135

This package has been developed by Texas Information Service (TIS) in order to provide Texas educators with practical information on individualizing instruction. In addition to information on individualized programs and practices, items on related concepts and instructional materials have been included. The chart below gives the title of each item in the package and indicates the primary user group for which it is intended. Of course, members of user groups other than those checked may find an item useful.

CONTENTS

Reprints, Summaries, Transparency Masters	PRIMARY USER GROUPS: *Admin.*	*Teach.*	*Parents*	*Teach. Trnrs.*
Concepts Related to Individualized Instruction	✓	✓	✓	✓
Practical Questions Teachers Ask About Individualizing Instruction-- and Some of the Answers		✓		
Classroom Arrangements for Individualized Instruction - 3 Transparency Masters		✓		✓
The Multiunit School Organizational Plans	✓			✓
Organization Chart of a Multiunit School-Transparency Master	✓			✓
A Comparison of Four Well Known Individualized Programs	✓			
Individualized Instruction: An Overview (FREP Brief)		✓	✓	
Behavioral Objectives: Panacea or Holocaust?		✓		✓
Steps in Preparing Behavioral Objectives		✓		
Individualized Instruction: Information for Parents			✓	
Resource Materials				
The 1972 Demonstration Schools in Individualized Instruction	✓			✓
Individually Prescribed Instruction (IPI) Schools In Texas	✓			✓
Instructional Materials for Individualized Programs		✓		
Instructional Staff Training for Individualized Instruction: An Annotated Bibliography	✓			✓
IOX Catalog of Objective Collections		✓		✓
Individualized Instruction: A Bibliography (Parts I-VII)	✓	✓		✓

SP 006 892

SCOPE OF INTEREST NOTICE
The ERIC Facility has assigned this document for processing to:

In our judgement, this document is also of interest to the clearinghouses noted to the right. Indexing should reflect their special points of view.

U S DEPARTMENT OF HEALTH EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

1/72

CONCEPTS RELATED TO INDIVIDUALIZED INSTRUCTION

The following concepts are related to the individualization of instruction. The statements are not complete definitions of each concept, but point out how each can be an element in an individualized program.

1. *Behavioral objectives* are educational goals stated in terms of the overt behavior (cognitive, affective, or psychomotor) that will be considered evidence of the learner's accomplishment. Using them, the instructor can easily tell what each child has accomplished and can devise individual instructional strategies to help each child achieve his goals in the shortest possible time.

2. *Criterion referenced tests* are directly related to behavioral objectives. They are designed to measure the pupil's display of the "overt behavior" in question. A criterion of acceptable performance is established in advance and the pupil's success or failure is determined by whether he meets the criterion, not by how he compares with his classmates.

3. *Differentiated staffing* is an organizational arrangement in which school staff members perform different functions according to their different skills and qualifications. Differentiated staffing is a way of providing teachers more time to work directly with pupils to individualize instruction.

4. *Flexible scheduling* refers to various arrangements used in schools for budgeting the time of students and teachers in response to their individual and changing needs. A provision for unassigned time in which students and teachers may work on individual projects makes flexible schedules particularly useful to individualized programs.

5. A *learning center* is a resource area set aside for a particular pupil activity. A school or classroom that contains several learning centers can facilitate individualization of instruction by allowing a number of different activities to go on at once.

6. *Learning contracts* are agreements between pupil and teacher which state a learning objective, the means by which the objective will be accomplished (activities and/or materials that will be used), and the method of evaluation. Learning contracts are widely used in individualized programs since they provide a way of setting different (yet clearly defined) goals and activities for each child, which the child may help select.

7. *Learning packages* usually consist of programmed units or materials through which the learner may progress at his own rate. Learner activities involve printed, audiovisual, or manipulative materials which often are included in the package. Most learning packages are self-instructional; thus, learners may work independently with them.

8. *Nongraded programs* are plans for school organization that do not group pupils into traditional year-length grades. Many forms of nongraded programs are possible, but their common goal is the continuous progress of each child toward learning as much as he can as rapidly as possible.

9. The *open classroom*, or informal education, involves an open or flexible approach to almost every aspect of education. The children engage independently or in small groups in various activities, according to their interests and needs. The teacher guides activities and acts as a resource person. (Learning centers can provide a means to organize activities in the open classroom.)

10. *Team teaching* is a simple differentiated staffing arrangement in which two or more teachers work together (with a larger group of pupils) to use more efficiently individual teacher skills, classroom equipment, and school facilities. Such cooperation allows teachers more time for work with individual children.

CONCEPTS RELATED TO INDIVIDUALIZED INSTRUCTION

The following concepts are related to the individualization of instruction. The statements are not complete definitions of each concept, but point out how each can be an element in an individualized program.

1. *Behavioral objectives* are educational goals stated in terms of the overt behavior (cognitive, affective, or psychomotor) that will be considered evidence of the learner's accomplishment. Using them, the instructor can easily tell what each child has accomplished and can devise individual instructional strategies to help each child achieve his goals in the shortest possible time.

2. *Criterion referenced tests* are directly related to behavioral objectives. They are designed to measure the pupil's display of the "overt behavior" in question. A criterion of acceptable performance is established in advance and the pupil's success or failure is determined by whether he meets the criterion, not by how he compares with his classmates.

3. *Differentiated staffing* is an organizational arrangement in which school staff members perform different functions according to their different skills and qualifications. Differentiated staffing is a way of providing teachers more time to work directly with pupils to individualize instruction.

4. *Flexible scheduling* refers to various arrangements used in schools for budgeting the time of students and teachers in response to their individual and changing needs. A provision for unassigned time in which students and teachers may work on individual projects makes flexible schedules particularly useful to individualized programs.

5. A *learning center* is a resource area set aside for a particular pupil activity. A school or classroom that contains several learning centers can facilitate individualization of instruction by allowing a number of different activities to go on at once.

6. *Learning contracts* are agreements between pupil and teacher which state a learning objective, the means by which the objective will be accomplished (activities and/or materials that will be used), and the method of evaluation. Learning contracts are widely used in individualized programs since they provide a way of setting different (yet clearly defined) goals and activities for each child, which the child may help select.

7. *Learning packages* usually consist of programmed units or materials through which the learner may progress at his own rate. Learner activities involve printed, audiovisual, or manipulative materials which often are included in the package. Most learning packages are self-instructional; thus, learners may work independently with them.

8. *Nongraded programs* are plans for school organization that do not group pupils into traditional year-length grades. Many forms of nongraded programs are possible, but their common goal is the continuous progress of each child toward learning as much as he can as rapidly as possible.

9. The *open classroom*, or informal education, involves an open or flexible approach to almost every aspect of education. The children engage independently or in small groups in various activities, according to their interests and needs. The teacher guides activities and acts as a resource person. (Learning centers can provide a means to organize activities in the open classroom.)

10. *Team teaching* is a simple differentiated staffing arrangement in which two or more teachers work together (with a larger group of pupils) to use more efficiently individual teacher skills, classroom equipment, and school facilities. Such cooperation allows teachers more time for work with individual children.

PRACTICAL QUESTIONS TEACHERS ASK ABOUT INDIVIDUALIZING INSTRUCTION--AND SOME OF THE ANSWERS

excerpts from an article by Rita Stafford Dunn and Kenneth Dunn in Audiovisual Instruction 17:47-50. January 1972.

QUESTION	ANSWER
? What does "individualization" really mean?	That each child in your group may: .assume some responsibility for his own learning, and thus .become an independent learner, capable of progressing without being dependent on others, .learn at a pace (rate, speed) which is comfortable for him, .learn through materials which are related to his perceptual strengths (seeing, hearing, touching, acting out, combinations of senses, etc.), .learn on a level which is appropriate to his abilities, .relate the curriculum to his major interests, .learn in accordance with his own learning style (alone in small groups, through media, at night, etc.), .be graded in terms of his own achievement and not in comparison with others, .feel a sense of achievement and thus be able to develop self-esteem and pride, and .select options from among a series of alternatives and participate actively in the decision-making areas of the learning process.
? How can a teacher do all these things for 30 or more children in a group when she has no assistance?	It's easier with clerical, parental, paraprofessional, or professional assistance, but it can be done effectively by one teacher with a 30:1 student ratio providing that teacher knows the techniques for individualizing.

INSTRUCTIONAL TECHNIQUES	EFFECTIVE UTILIZATION						
			CURRICULUM AREAS				
	No. In Group	Age Levels	Lang.	Math.	Sci.	Soc. Stud.	Prob. Solv.
Team Learning	5-8	5-18	●	●	●	●	●
Simulations	5-8	9-18	●			●	●
Role Playing	1-9	5-18	●	●	●	●	●
Learn Activity Pkgs.	1-6	5-18	●	●	●	●	
Independent Contracts	1	5-18	●	●	●	●	
Team Task Force	3-5	5-18	●	●	●	●	●
Tutoring Teams	1-5	5-18	●	●	●	●	
Learning Circles	5-10	8-18	●	●	●	●	
Brainstorming	5-30	5-18	●			●	●
Multi-Media Projects	1-30	5-18	●	●	●	●	●
Community Centers	1-30	12-18	●	●	●	●	●
Working While Learning	1-30	14-18	●	●	●	●	●
Case Studies	1-30	9-18	●			●	●

QUESTION	ANSWER
? What are the techniques for individualizing instruction?	There are five basic ways of individualizing instruction: .the contract method (which builds into it a series of excellent small-group techniques), .instructional packages or educational materials, .programed sequences (like SRA, IPI or Project Plan), .work-study programs (like the Parkway School) and/or internships, or .community contribution programs (such as introduced in Cherry Creek, Colorado).
? Then do teachers in the United States need many methods?	Yes. Any variation will do, but several effective techniques, each used in selected curriculum areas, will probably absorb our children indefinitely.
? Be specific. Give examples	One well-designed individualized program would provide contracts in social studies, programed materials in mathematics (supplemented by tapes and films), instructional packages in science, and a combination of these in reading and language arts.

QUESTION	ANSWER
I see, rather than rely on any single method, you'd suggest a variety of techniques as part of a total process. With which subject should I begin and with which techniques?	Begin with the curriculum area you like best. Assess the amount of money or materials available and then plan a program around that curriculum. If you've no money or materials, you'll either have to innovate or create materials. Learn some simple small-group techniques before you begin and train the pupils to function independently through these. As the students mature, design an individualized plan for those who appear to be able to assume some responsibility for their own progress.
What are "small-group" techniques?	Methods of helping pupils to work independently with their peers. These should be used as a beginning step toward individualization. (See chart.)
Do any small-group techniques work best with bright pupils? With disruptive ones? With slower ones?	All of the techniques work well with motivated, intelligent and/or creative youngsters. Circle of Knowledge, team-learning, role-playing, case studies, brain-storming, and task forces tend to be effective with most children.
I want to individualize. What must I learn to do?	.Diagnose your pupils' academic abilities, perceptual strengths, learning style, major interests, and amount of self-discipline. .help pupils to assume partial responsibility for their own learning; .organize the room, the instructional materials, and the program for individualized learning; .operate varied media effectively; .win support from the pupils, parents, administrators, and the community; .write individual learning prescriptions; and .guide pupils through the learning process.

QUESTION	ANSWER
Won't that be a lot of work and won't it take a lot of time?	It will take time, but much of this is merely a reorganization and refocusing of what teachers always do.
How can I learn to use the small-group and individualized techniques?	Read about them, observe teachers who use them, try to implement them (preferably with a "partner" so that you may help each other over the rough times), and have an experienced person offer concrete suggestions for improvement after he has worked with you in your classroom with your students. As you progress, you'll improve on the techniques and use them to your advantage.
Do students learn more?	Most do, but it has other advantages. It reduces friction, tension and disruption because students aren't forced into little boxes, they may be themselves and move ahead in a way that makes them feel comfortable and worthwhile. It provides feelings of accomplishment for marginal children; it doesn't restrict the learning of the more able ones. It also helps youngsters to become lifetime learners rather than "under pressure" students.
Where can I see effective individualized programs?	See "IPI Schools in Texas" and "The 1972 Demonstration Schools in Individualized Instruction" in this package.

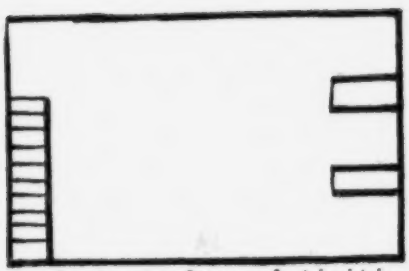
1/72

OVERHEAD TRANSPARENCY MASTERS

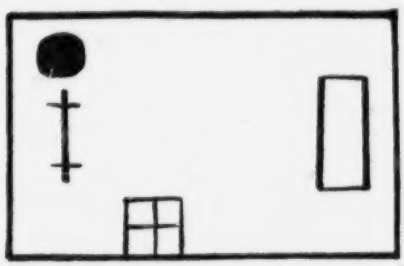
Diagrams for classroom arrangements (for a teaching team) and classroom learning centers, presented here as transparency masters, are from:

Voight, Ralph C. *Invitation to Learning: The Learning Center Handbook*. Washington, D.C.: Acropolis Books Ltd., 1971. 149pp.

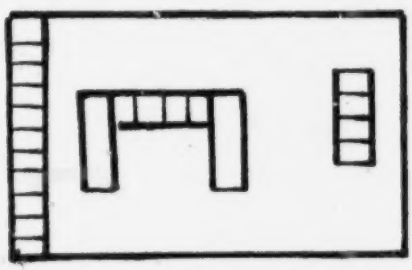
Suggested Activity-Oriented Classroom Arrangements for a Three-Member Teaching Team



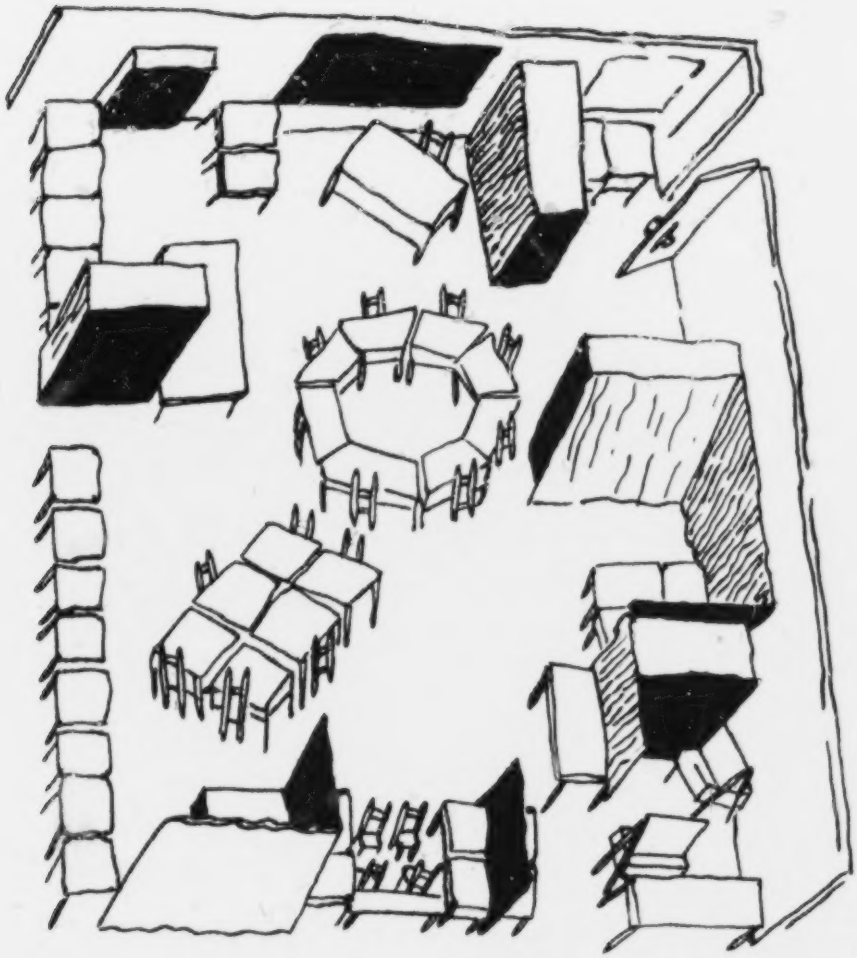
Room A: Large Group Activities



Room B: Small Group Activities



Room C: Independent Activities

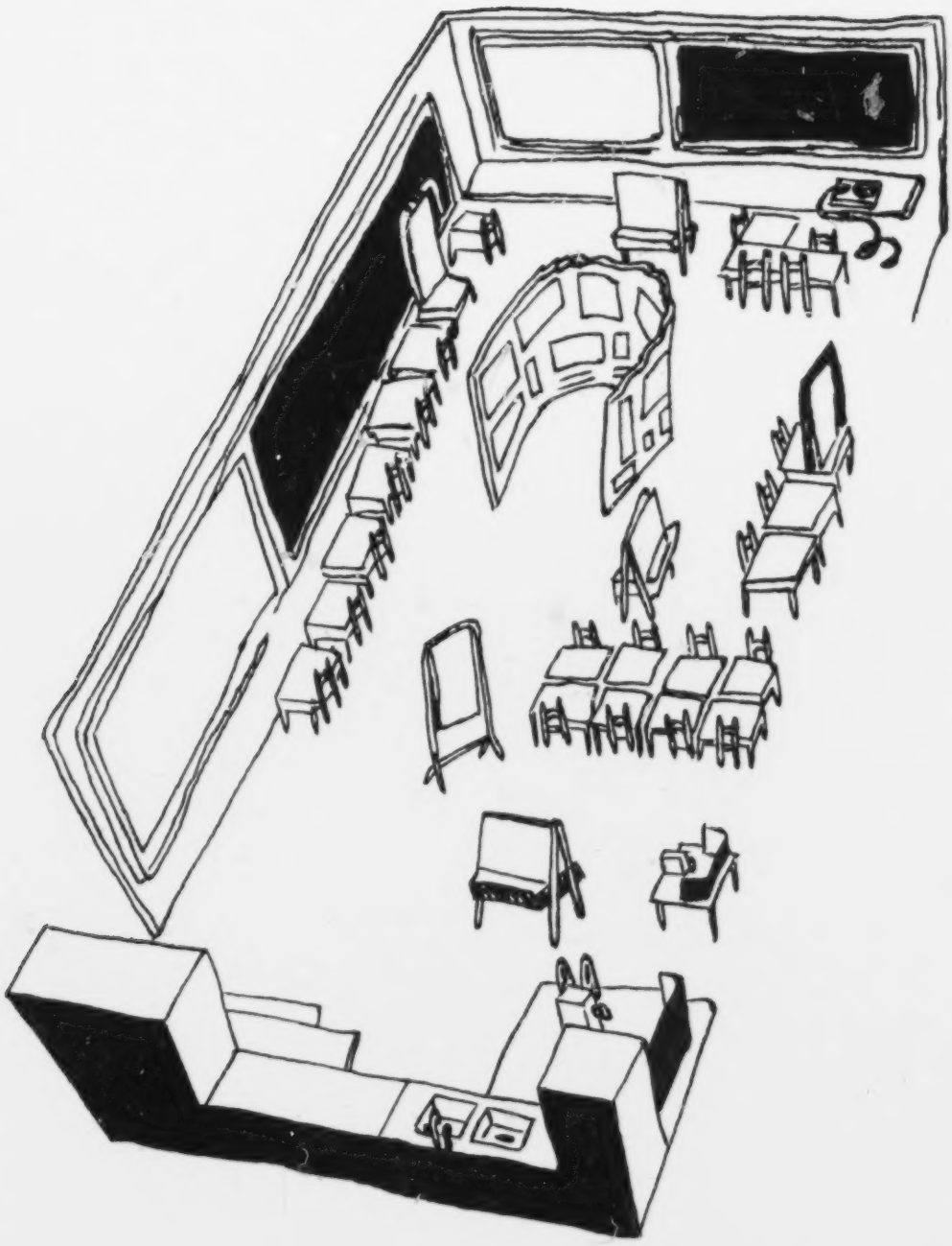


SUGGESTED FURNITURE PLACEMENT
FOR A CLASSROOM LEARNING CENTER

DIAGRAM # 1

1/72

Overhead Transparency Master



SUGGESTED FURNITURE PLACEMENT
FOR A CLASSROOM LEARNING CENTER
DIAGRAM # 2

1/72

Overhead Transparency Master

THE MULTIUNIT SCHOOL ORGANIZATIONAL PLAN

The Multiunit School-Elementary (MUS-E) was designed to produce an environment in which Individually Guided Education can be introduced and refined. It incorporates instructional programming for individual students, horizontal and vertical organization of teachers for instruction, staff role differentiation, shared decision-making by groups, open communication, and administrative and instructional accountability. The organizational hierarchy consists of interrelated groups at three distinct levels of operation: the instructional and research (I&R) unit at the classroom level, the instructional improvement committee (IIC) at the building level, and the systemwide policy committee (SPC) or a similar administrative arrangement at the system level. Personnel who serve at each of two levels, as noted in Figure 1 provide the communication link.

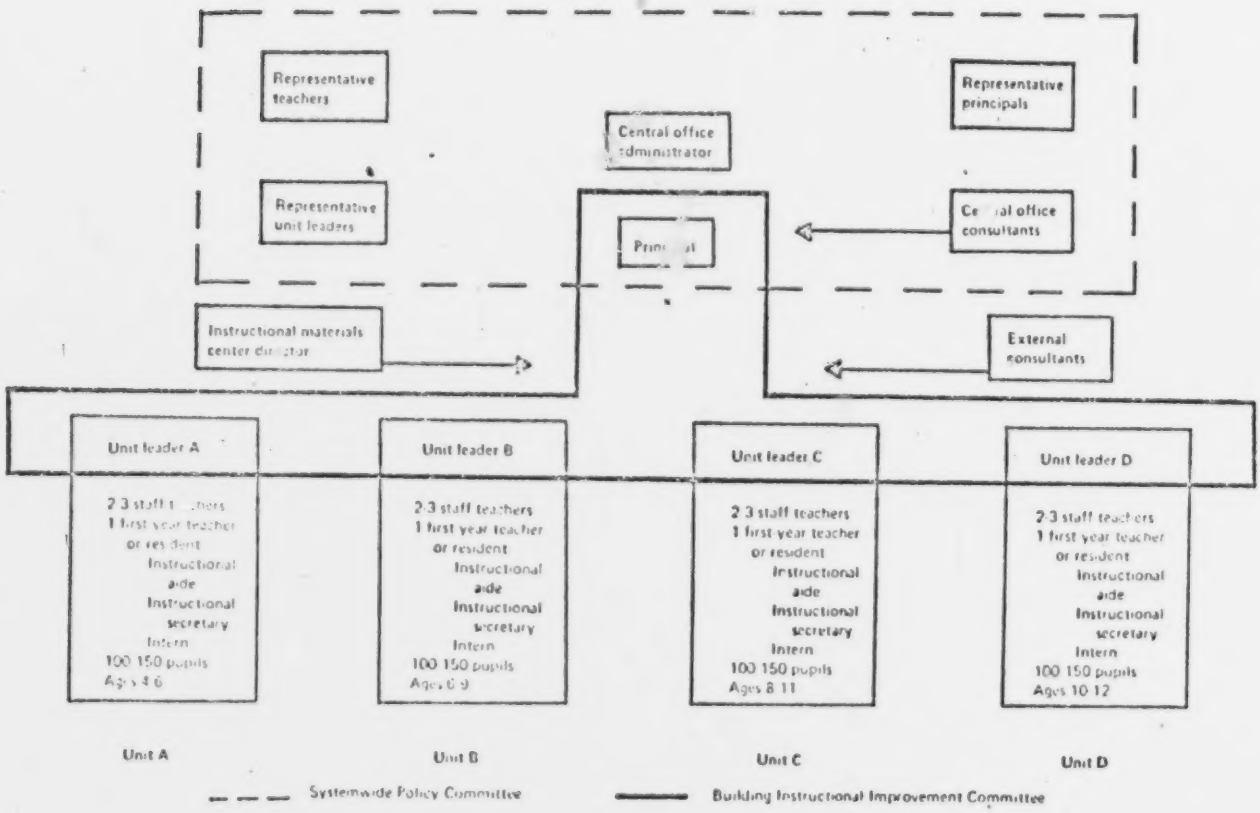


Figure 1 — Organization Chart of a Multi-Unit School

The I&R Unit--The nongraded I&R unit replaces the age-graded, self-contained classroom. "Research" is included in the title to reflect the fact that the staff must continuously do practical research in their classrooms in order to devise and evaluate an instructional program appropriate for each child. The main function of each unit is to plan, carry out, and evaluate, as a hierarchical team, instructional programs for the children of the unit.

The IIC-- The four main functions for which the IIC takes primary initiative are stating the educational objectives and outlining the educational program for the entire school building; interpreting and implementing systemwide and statewide policies that affect this educational program; coordinating the activities of the various I&R units to achieve continuity in all curriculum areas; and arranging for the use of facilities, time, material, etc., that the units do not manage independently.

The SPC--Substantial changes are required to move from the self-contained classroom organization to that of the I&R unit and the IIC. The SPC, at the third organizational level, was created to facilitate this transition. The committee is chaired by the superintendent or his designee, includes consultants and other central office staff and representative principals, unit leaders, and teachers. Four decision-making and facilitative responsibilities for which the SPC takes primary initiative are identifying the functions to be performed in each MUS-E of the district, recruiting personnel for each MUS-E and arranging for their inservice education, providing instructional materials, and disseminating relevant information within the district and community.

Differentiated Roles

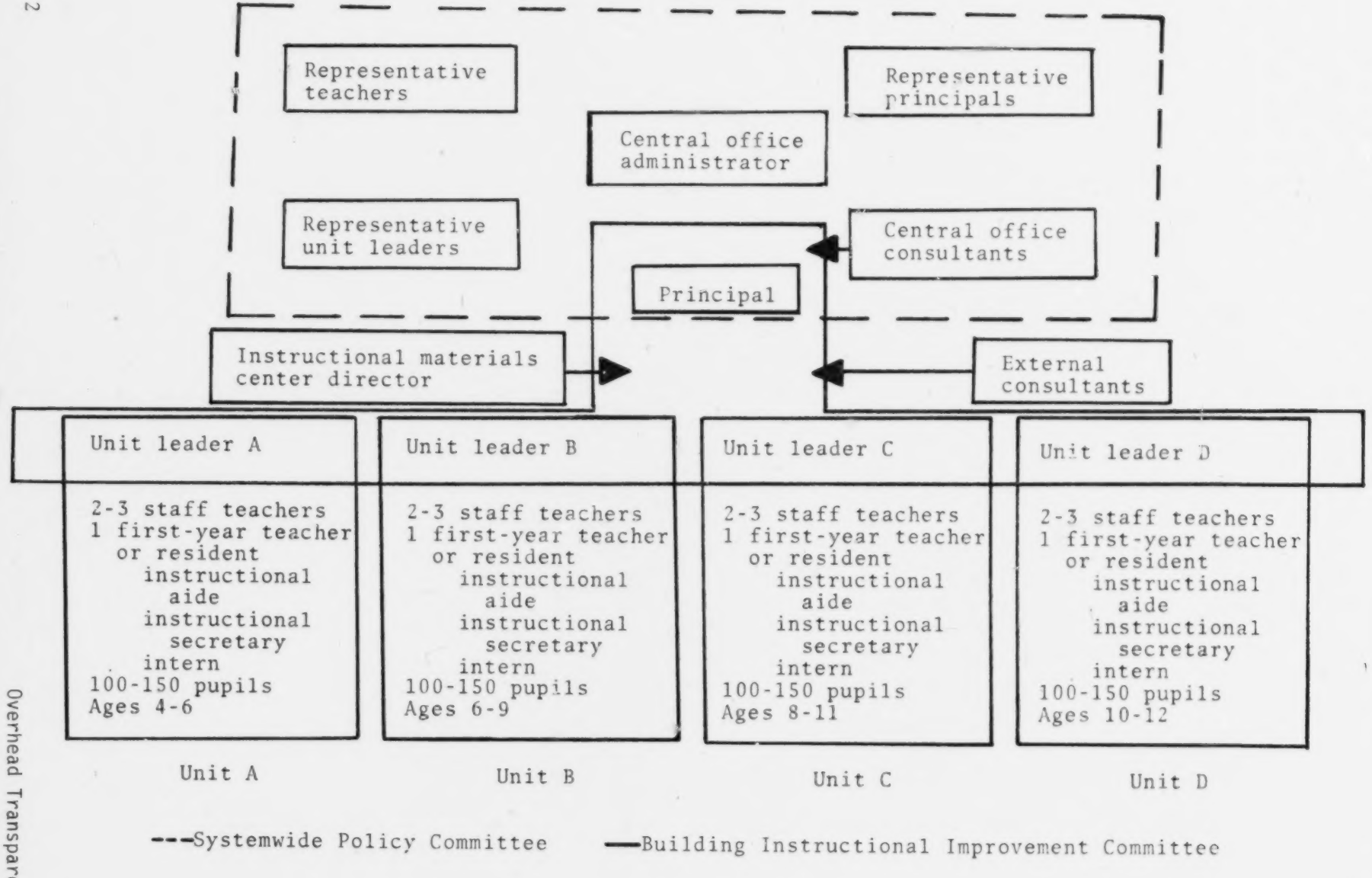
Lead Teacher. The lead teacher is a member of the IIC, the leader of a unit, and also a teaching member of the unit. The lead teacher chairs unit meetings. The role is that of a career teacher; it is clearly not administration or supervision. When not teaching, he plans and coordinates the efficient utilization of materials and resources; he performs liaison functions between the unit staff and the principal, consultants, parents, and others; and he teaches members of the unit, including beginning teachers and instructional aides.

Staff Teacher. The staff teacher plans with other members of the unit when not teaching, works with a large number of children in small and large groups in the unit, and performs more professional and less routine work. Each I&R unit staff member (first year and resident, as well as staff teachers), takes greater initiative in the area of his strengths and interests, but he does not become completely specialized.

Principal. The role of the principal is changed in the multiunit school in that he assumes greater and more direct administrative responsibility for developing improved educational practices, managing the preservice and inservice teacher education activities in the building, and administering research and development activities. He utilizes the knowledge of his staff and consultants, delegates responsibility, and assists the IIC in arriving at decisions which can be implemented effectively.

1/72

1/72



ORGANIZATION CHART OF A MULTI-UNIT SCHOOL

Overhead Transparency Master

A COMPARISON OF FOUR WELL-KNOWN INDIVIDUALIZED PROGRAMS

The four programs for individualized instruction selected for comparison in the following chart we believe to be representative programs. IPI depends to a great extent on programmed materials and thus is characteristic of programs employing that method. PLAN is a computerized program. The Duluth Plan is a flexible locally developed program that uses learning contracts. IGE is built around a plan for school and staff organization. It depends on materials developed by local school staffs. We hope this comparison will aid administrators in making decisions concerning what kind of individualized program to adopt. Cost information should be regarded only as an indication of full program costs--notice, for example, that inservice and staff training costs are not included.

	Individually Prescribed Instruction (IPI)	Program for Learning in Accordance with Needs (PLAN)	Duluth Plan	Individually Guided Education (IGE)
Target Audience	Elementary students of all ability levels, grades K-6.	Students of all ability levels, grades 1-12.	Students of all ability levels; any grade(s), K-12.	Elementary students of all ability levels, grades K-6.
Subject Area	Math and reading. (Materials for science, spelling, and handwriting are being developed; a social studies course is planned).	Math, science, language arts, social studies, and guidance.	Any subject the school wishes to individualize.	Any subject area the school wishes to individualize.
Instructional Method	Independent work with programmed material; individual and small-group learning and tutoring; peer tutoring.	Independent work with programmed material; small-group discussions, individual and small-group tutoring; peer tutoring.	Student learning contract.	Independent, large- and small-group activities in accordance with the student's own objectives. Takes into account his beginning level of performance, rate of progress, style of learning, motivational level.
Student Testing	Pre- and posttest for each learning objective.	Placement test, test after each TLU, test after predetermined number of modules, tests for determining course of study for upcoming school year.	Achievement tests, as well as teacher-designed pre- and post-tests and unit tests are used.	Pretest, criterion-referenced post-tests. Some Norm-referenced tests.
Student's Role	Student's primary activity is working with programmed instruction material.	Students help determine instructional objectives, instructional procedures, and schedule own time.	Student selects his own learning resources and schedules his time.	Identifies learning goals and chooses instructional materials and activities in conference with his teacher.
Teacher's Role and Training	Diagnoses, tutors, prescribes, evaluates; training required, provided by the program.	Tutors, evaluates student progress, guides each student in planning his study program; PLAN provides teacher-training materials and consultant services.	Writes contracts and compiles lists of suitable learning materials; conducts small-group and tutorial sessions, and generally supervises study and testing.	Member of a teaching team working with about 150 students. Instructs and evaluates pupils in tutorial, large- and small-group units. Identifies and develops instructional materials. Participates in decision making roles for all aspects of the instructional programs. Staff development materials being produced by IDEA.
School Organization	Nongraded system which allows for different rates of learning.	Nongraded system.	Nongraded system.	Nongraded; grouped into units of 100-150 pupils, 4 teachers, 3 paraprofessionals. (MULTI UNIT Elementary School).
Special Equipment & Facilities	Resource center, shelves. Language Master machines and Assman Sound Disc machines necessary for reading program.	Computer terminal and terminal room, storage space for materials, various hardware and software are required.	Depends on plan of the individual school.	Audiovisual equipment and materials. All materials keyed to instructional objectives. Spaces appropriate to large- and small-group work and an Instructional Materials Center.
Program Evaluation	Data on student achievement and attitudes available.	Limited data on student achievement available.	No formal evaluation has been made.	Data on student achievement and teacher attitudes available.
Availability	Math and reading materials available now.	Materials for grades 1-3 and 5-11 are now available. The materials for grades 4 & 12 are under development.	Information package available.	Program planning materials currently available.
Cost (for indicative purposes only)	Reading: $7.88 per pupil for consumable materials Math: $10.00 per pupil for consumable materials Supplementary materials and teaching machines must be provided by the user school at additional cost.	$100.00 per student. Second year costs are the same.	Guidelines available for $5.00; cost of implementation will vary from school to school. Duluth schools requested $133,903.00 under Title I to implement in two schools.	$10.00 per pupil first two years. Remodeling to provide resource center space. Materials and equipment for resource center.
Address	Research for Better Schools, Inc. 1700 Market St. Philadelphia, Pa. 19103	Westinghouse Learning Corp. 2580 Hanover Street Palo Alto, California 94304	Duluth Public School System Board of Education Duluth, Minnesota 55805	Wisconsin Research and Development Center for Cognitive Learning The University of Wisconsin and Institute for the Development of Educational Activities, Inc. Suite 300, 5335 Far Hills Avenue Dayton, Ohio 45429

This "Brief" is from PREP-16 (ED 041 185, September 1970) another resource that should be consulted. The TIS package supplements and updates PREP materials.

BRIEF

No. 16

INDIVIDUALIZED INSTRUCTION

In contrast to traditional instruction that has been oriented toward a group or class, individualized instruction is oriented toward the child. Once appropriate learning experiences are identified, instruction is mainly self-directed, self-administered, and scheduled within the school's broad time constraints, at a time convenient to the learner.

As with so many "new" techniques, there are those who question the value of the individualized instruction method; others are bluntly skeptical. But, the traditional system does not work very well for some students either, and many teachers are dissatisfied with existing arrangements. There is little evidence at the present time to indicate which orientation promises the greater long-term benefits. Nonetheless, schools which have moved from traditional to individualized instruction universally agree that they would never return to a group orientation.

Some Advantages Found in the Individualized Instruction Approach

- Student response generally has been positive.
- Teachers report that, while they are working harder than before, they are more satisfied.
- Traditional disciplinary problems virtually disappear and attendance is improved.
- Teachers note their students' renewed interest in academic activities and in school in general.
- The enthusiasm of students is being passed along to parents, and the favorable experience of teachers and administrators is being acknowledged by school boards.
- Schools with these programs are receiving renewed attention, encouragement, and approval from their communities.
- Some administrators believe that, once the transition is made, individualized instruction may be a partial solution to or provide a means of slowing down spiralling school costs because it provides an opportunity for more efficient utilization of teachers and support personnel.

General Arrangements of Individualized Instruction

To refer to individualized instruction as a single, uniform procedure is, of course, totally unwarranted and incorrect. The implementation of the orientation toward the individual, instead of toward the group or class, takes

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE / Office of Education

National Center for Educational Communication

many forms in actual practice. The names given below have no particular status or consensus. The essential point is that the administrator should not let anyone convince him that there is only one way to individualize instruction. There are many different yet effective programs, and most schools which have or are making attempts to individualize their programs employ variations of each arrangement described.

- *Individually Diagnosed and Prescribed*--In all instances behavioral objectives are clearly specified, and defined systems of materials and methods of instruction have been developed to enable learners to reach specified behaviors. As in all individualized instruction, the pace of instruction is determined by the individual.

- *Self-Directed*--These programs are characterized by well-developed testing programs, clearly stated curriculum goals, and by well-equipped and -developed learning resource centers or learning laboratories where a wide variety of materials are available. Self-directed instruction is based on the belief that each individual's strengths and learning styles are unique, and that any preconceived sequence or system does the learner an injustice, denying him the freedom to fully develop his individuality by prescribing activities which he should be learning to prescribe for himself.

- *Personalized*--The learner identifies personal learning objectives. Like independent study, personalized instruction is usually found in science, social studies, and elective courses, whereas the former types are most commonly associated with required subjects such as language arts and mathematics. Individual student interests are the primary factor in selecting objectives, but once selected, the student follows a directed program with specified materials.

- *Independent Study*-- The learner independently determines both learning objectives and the means to attain them. Like the self-directed programs, independent study is reserved more frequently for the above-average learners.

Considering Implementation Procedures

If the school administrator believes that programs should accommodate the requirements of learners, and that present programs do not accommodate learners to the degree that they should, then it is incumbent upon him to determine whether new procedures merit adoption. Individualized instruction is one new procedure he should perhaps consider.

For More Information

In a national study of individualized instructional programs for the U.S. Office of Education, Jack V. Edling of the Oregon State System of Higher Education, Corvallis, conducted an in-depth survey of 46 programs in 24 States.

A PREP kit, No. 16, reports on that study in 13 documents, covering such subjects as objectives of individualized instruction; diagnostic, instructional, and evaluative procedures; student progress reports, evidence of effects of individualized instruction; problems encountered; recommendations on implementation procedures; a bibliography; a list of current ERIC documents on as well as a list of materials for individualizing instruction; and case studies.

PREP kit No. 16 will be made available from the ERIC Document Reproduction Service (EDRS).

Behavioral Objectives:

Panacea or Holocaust?

Larry Frase *is elementary associate, College of Education, Arizona State University, to the Arizona-Mesa Differentiated Staffing Consortium, and* **E. Gene Talbert** *is assistant professor of elementary education, Arizona State University, Tempe.*

▶ Behavioral objectives are rapidly growing as a major tool in curriculum and instruction. Workshop and seminar instructors are often found training participants in the writing and use of behavioral objectives. The majority of university classes, graduate or undergraduate, offer instruction in the development of skills in the use and writing of behavioral objectives. The present trend toward use of individualized instruction has extended and increased the use of behavioral objectives. Many types of materials written specifically for individualized instruction such as LAPs, TLUs, Contracts, and BIPs make use of behavioral objectives.

The behavioral objectives used in the previously listed materials, and those presented to teachers or preprofessional teachers in seminars and workshops include the first three and sometimes the fourth of the following elements: overt behavior, performance standard, conditions, and the doer.

The overt behavior is considered as evidence of the learner's accomplishment of the objective. The performance standard is the quality or quantity of the behavior expected. The conditions are those imposed upon the learner while he or she is expected to demonstrate the behavior. The doer is the person (individual student or teacher) or group (students, teachers) for whom the objective is written. As an illustration, the elements of the following behavioral objective are identified:

> The student will list on paper the name, years in office, and birth date of the four presidents preceding President Nixon within five minutes and with no errors.
>
> 1. Overt behavior—list (on paper)
> 2. Performance standard—no errors
> 3. Conditions—within five minutes
> 4. The doer—student

The overt behavior is the element that gives the behavioral objective its power and uniqueness—it makes the behavioral objective "behavioral". But when teachers continually use verbs such as *identify, list, name, label, match,* and *reproduce* to identify the desired behavior the behavioral objective ceases to be an improvement in the selection and statement of objectives.

The verbs *identify, list* and *name* are nearly always associated with memorization. For example, "List four types of birds," "Name six eastern cities," and "Label the parts of a flower," all connote memorization. A review of Bloom's (1956) taxonomic analysis of the cognitive domain reveals that objectives of this nature (memorization) are first-level cognitive objectives. Further review of the taxonomy reveals that there are also the following five levels in the cognitive domain: comprehension, application, analysis, synthesis, and evaluation. All of these levels indicate skill more useful and sophisticated than that implied by the first level. The acquisition of knowledge is not wrong, but in large doses it is stifling to students and does not allow time for the development of the more valuable skills found in levels 2, 3, 4, 5, and 6.

This case also holds true for behavioral objectives written in the affective domain. The five levels as indicated by Krathwohl (1964) are: 1) receiving-attending particular phenomena or stimuli; 2) responding-reacting to particular phenomena (usually under teacher direction); 3) valuing-internalizing a particular set of values and behaving in accordance with them; 4) organization-resolving conflicting values; and 5) characterization by a value or value complex—living over a number of years in accordance with an internalized value or value complex. Because they are easier to write, the teacher must be careful not to limit all objectives to the first or second level. Behaviors implied by these two levels indicate little more than receiving and responding like a robot. Surely to be able to listen (receive) attentively and respond as directed is of value. Students must, however, learn the more sophisticated behaviors implied in the affective domain—such as the ability to choose between conflicting values—and to live by these values if they represent their finest thinking on the subject.

"How do we write behavioral objectives at different levels of sophistication?" It must first be realized that some verbs imply a behavior that coincides with some levels better than with others. For example, the verb *list* is more useful and proper for use in the first level (knowledge recall) than at the synthesizing or evaluating level. To match verbs with the various levels is a voluminous task, but some work has already been done. Gronlund (1970), in his book *Stating Behavioral Objectives for Classroom Instruction*, has identified many verbs with the six levels of the cognitive domain and the five levels of the affective domain. For instance, he indicates that *generate* implies behavior at the synthesis level. Teachers sensing student needs for development in synthesis could then state an objective such as "The student will generate a hypothesis from his observation of a scientific phenomenon. To be acceptable, the student must be able to relate to the teacher the relationship of the hypothesis to the observed phenomenon."

Many materials now in use are related to objectives derived from only the first level of the cognitive domain. Very few are written from the more sophisticated levels of either the cognitive or the affective domain.

As a result of this practice, our schools are training students to memorize and then to promptly forget facts, and to blindly accept ideas without question. When these students become members of adult society their minds are molded like clay, never having been stimulated to judge and weigh.

The challenge to teachers using behavioral objectives is to write objectives at all levels so their students gain a variety of knowledge and skill—both cognitive and affective. ◀

Audiovisual Instruction, 16:85.

STEPS IN PREPARING BEHAVIORAL OBJECTIVES
based on *Preparing Instructional Objectives* by Robert F. Mager

In very broad terms, a statement of an instructional objective is a collection of words or symbols describing an instructional intent. What differentiates "good" objectives from "poor" ones is their ability to communicate the instructional intent.

(Poor) Example A: The pupil will know the valences of common chemical elements

"Knowing" is not an observable action, not a behavioral term. How will the instructor be able to decide when his pupils "know"? Notice in the example below the use of the verb "to write." It indicates a clearly observable behavior.

(Good) Example B: Given a list of 35 chemical elements, the learner must be able to recall and write the valences of at least 30.

This objective allows the instructor to observe and measure what he has expected the pupil to learn.

In order to refine a vague objective like that in Example A to produce a clear behavioral one like Example B, the following steps are important.

1. Identify and name the overall behavioral act.
   Ex.: The learner must be able *to recall and write* valences of common chemical elements.

2. Define the important conditions under which the behavior is to occur.
   Ex.: *Given a list of 35 chemical elements*, the learner must be able to recall and write their valences.

3. Define the criterion of acceptable performance.
   Ex.: Given a list of 35 chemical elements, the learner must be able *to recall and write the valences of at least 30.*

The instructor is also advised by Mager to write a separate statement for each instructional objective. If the teacher writes a clear statement in behavioral terms to express each objective for his unit, both he and his pupils will know when these objectives have been met. If conditions under which these behaviors are to occur and standards for acceptability are set, the learner knows how he will be judged and the instructor has his test made up.

The example objectives given here are knowledge level objectives. However, using the process outlined here, behavioral objectives may be written for all levels described in Bloom's Taxonomy of Educational Objectives: the Classification of Educational Goals. Handbook I: Cognitive Domain. Behavioral objectives may also be written for the affective domain (see Krathwohl, Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook II: Affective Domain).

Mager closes his final summary with an encouraging statement: "If you give each learner a copy of your objectives, you may not have to do much else."

1/72

INDIVIDUALIZED INSTRUCTION: INFORMATION FOR PARENTS

If your child is entering a program in individualized instruction for the first time, you may find a number of changes taking place. This information sheet is an effort to explain the reasons for some of these changes.

DEFINITION

Most simply, individualized instruction is an effort to put the individual child and his needs back at the center of the educational process. The teacher and the school have different expectations for each child, and, as a result, children take part in different learning activities. Individualizing instruction involves consideration of three major questions about each child's learning process:

1. What has he already learned? (diagnosis of learning needs)
2. Does he learn best by listening, by seeing, or by doing, with a large group, with a small group, or by himself? (determination of learning style)
3. Does he learn quickly or slowly? (determination of learning pace)

Of course, any child's learning needs, style, and pace vary with subject matter and from day to day. Therefore, these questions cannot be answered once for all, but must be asked and answered many times each day.

GRADE REPORTS

You may notice some major changes in the way your child's "grades" are reported. He may continue to bring home a traditional report card at set intervals, or he may receive a different form of report (perhaps one listing all the reading skills taught in the school with those he has accomplished checked off). Perhaps your conferences with the teacher will be a major way of receiving information about your child's progress. Whatever method is used, the aim will be to evaluate the pupil on the basis of his own progress toward the goals set for him.

ASSIGNMENTS AND HOMEWORK

When assignments are made to fit your child's learning needs, styles, and pace, they may be different from those of other children in his class. He may be part of a small group of pupils working on a particular project or he may have a completely independent task. If your child's work at school requires special materials or work with a group of children, he may have very little or no work that he can do at home. In addition, the school may find that when children work toward individual goals at school, much more is accomplished there and less homework is necessary.

TEAM TEACHING

You may find that your child has day-to-day contact with and receives direct instruction from more than one teacher. Many individualized programs make use of team teaching, an organizational plan in which two or more teachers work together (with a larger group of children) in order to use more efficiently individual teacher skills, classroom equipment, and school facilities. In such a system your child might be in a science class of 90 pupils with three teachers. Perhaps one teacher works with him in large group activities, another helps him with individual or small group projects, and still another prepares and presents laboratory experiments.

NONGRADED PROGRAMS

Your child's school may be organized into units other than year-length grades numbered first, second, third, etc. Many forms of nongraded programs are possible, and many are appropriate settings for individualized instruction. Regardless of its form, the goal of a nongraded program is to create a school structure which will help the child move as rapidly as possible (no matter how irregularly) toward the target of learning as much as he can.

PARENT'S ROLE

Your child will benefit from your encouragement and interest in his school activities, and his teacher will want to talk with you, not only about his progress and learning styles, but about his interests and abilities. Your knowledge of your child can be the key to a successful individualized program for him.

Individually Prescribed Instruction (IPI)
Schools in Texas

Schools on this list should be visited by appointment only. With the exceptions noted below, appointments should be made with the building principal.

Abilene

James Bowie Elementary
1733 South 20th Street
Abilene, Texas 79602
Principal: Mr. Daniel Russ
915-672-1652

Dallas

Stonewall Jackson Elementary
5828 E. Mockingbird Lane
Dallas, Texas 75206
Principal: Mr. Charles E. Davis
214-827-6964

Tom C. Gooch Elementary
4030 Calculus
Dallas, Texas 75234
Principal: Mr. Bill Prince
214-247-0104

Edinburg

For an appointment to visit any Edinburg school contact:
Mr. Rubin Ayala
Drawer 990
Administration Building
Edinburg, Texas
512-383-4994

Austin Elementary
1023 E. Kuhn Street
Edinburg, Texas
Principal: Mr. J. Peralz

Edinburg - con't

Lincoln Elementary
P. O. Box 990
Edinburg, Texas 78539
Principal: Mr. Andrew Lopez

Edinburg Jr. High School (North)
411 North 8th Street
Edinburg, Texas
Principal: Mr. L. Glass

Edinburg Jr. High School (South)
Edinburg, Texas

Travis School
P. O. Box 990
Edinburg, Texas
Principal: Mr. S. T. Arredondo

Houston

For an appointment to visit any Houston school contact:
Mr. Clovis Johnson
Title I--Model Cities Department
713-623-5437

Blackshear Elementary School
2900 Holman Avenue
Houston, Texas 77004
Principal: Mrs. Theresa Stewart

Gregory Elementary School
1400 Wilson Street
Houston, Texas 77019
Principal: Mrs. Johnnie Brooks

Houston - con't

Harper Elementary School
3200 Center Street
Houston, Texas 77007
Principal: Mr. Alonzo Hurdle

Langston Elementary School
2814 Quitman Street
Houston, Texas 77026
Principal: Mr. George Mundine

Lee Elementary
2101 South Street
Houston, Texas 77009
Principal: Mrs. Rose Gunji

Dunbar Elementary
2202 St. Emanuel
Houston, Texas 77003
Principal: Mr. Ernest Z. Clouser

Dow Elementary
1900 Kane Street
Houston, Texas 77007
Principal: Mrs. Justene Joseph

Plainview

Hillcrest Elementary
315 West Alpine
Plainview, Texas 79072
Principal: Mr. Dell Brown
806-296-9464

San Antonio

Forest Hills Elementary
2902 Whitetail Drive
San Antonio, Texas 78228
Principal: Mr. Eduardo Villarreal
512-434-0696

INSTRUCTIONAL MATERIALS FOR INDIVIDUALIZED PROGRAMS

prepared by
TEXAS INFORMATION SERVICE
6504 Tracor Lane
Austin, Texas 78721
512/926-8080, ext. 50

Sources consulted in compiling this list:

Alternatives for Learning Through Educational Research and Technology (ALERT): An Educational Information System. Berkeley: Far West Laboratory for Educational Research and Development, 1971.

PREP-16, Individualized Instruction. September 1970.

Products Entered into the Pool for Dissemination Program of NCEC. Princeton: Educational Testing Service, June 1971.

Social Sciences Education Consortium, Resource and Reference Center. Boulder, Colorado.

Sources of Materials Under Item 10 in DSII 2-B Visitation Instrument. Austin: Texas Education Agency, 1971.

Information concerning price and grade level of materials as well as developers' recommendations for use have been given when available.

January 1972

LANGUAGE ARTS

Basic Reading Program. Harper and Row Publishers, Inc. 49 E. 33rd Street, New York, N.Y. 10016.

Basic Reading Series. Science Research Associates, 259 E. Erie St., Chicago, Ill. 60611.

Checkered Flag Series. A Part of the Basic Instructional Program for Slow Readers, Grades 7 and 8. Field Educational Publications, Inc., 609 Mission Street, San Francisco, Calif. 94105.

The Deep Sea Adventure Series. A Part of the Basic Instructional Program for Slow Readers, Grades 4-6. Field Educational Publications, Inc., 609 Mission St., San Francisco, Calif. 94105.

Educational Development Laboratories Study Series. A Division of McGraw-Hill, Inc., 284 Pulaski Rd., Huntington, N.Y. 11744.

First-Year Communication Skills Program/Second-Year Communication Skills Program. Southwest Regional Laboratory for Educational Research and Development (SWRL), 11300 La Cienega Blvd., Inglewood, Calif. 90304.

First-Year Program: storybooks, exercises, cards, teacher's manual, and training materials ($3.14 per student). Second-year Program: storybooks, exercises, cards, transition program materials, teacher's manual ($7.50 per student). Exercises consumable; other materials reusable. K-1.

Galaxy Series. Scott, Foresman & Company, 1900 E. Lake Avenue, Glenview, Ill. 60025.

IPI Reading, Research for Better Schools, Inc., 1700 Market Street, Philadelphia, Pa. 19103.

Sullivan Programmed Readers, Numbers 1-21 ($1.44 per reusable book). Tests for Sullivan Readers ($48.00 for all sets, reusable). IPI-developed reading materials ($35.00 per student). K-6.

Interdependent Learning Model for Follow Through, Donald Wolff, New York University, Institute for Developmental Studies, School of Education, 300 East Bldg., Washington Square, New York, N.Y. 10003.

Teachers guides and consultants available through contract with developer. Language Lotto and Matrix games for K-1 ($40.00-50.00 per set) available from Appleton-Century-Croft K-3.

Language Experiences in Reading. Encyclopedia Britannica, Inc., 425 N. Michigan Ave., Chicago, Ill. 60611.

Macmillan Reading Program. Macmillan Company, 866 Third Ave., New York, N.Y. 10022.

McGraw-Hill Webster Classroom Reading Clinic Kit. McGraw-Hill Book Co., 330 W. 42nd St., New York, N.Y. 10036.

The Morgan Bay Mysteries. A Part of the Basic instructional Program for Slow Readers, Grades 4-6. Field Educational Publications, Inc., 609 Mission St., San Francisco, Calif. 94105.

The Oregon Curriculum: A Sequential Program in English. Holt, Rinehart, and Winston, Inc., 383 Madison Ave., New York, N.Y. 10017.

Textbooks, ($4.00 to $5.25). Teachers' guides ($3.00), long playing records, ($4.26). Programmed booklets ($1.41). Tests (no prices available). "Skills Box" ($60.00). Regular or advanced 7-12.

Peabody Language Development Kits. American Guidance Service, Inc., Publishing Bldg., Circle Pines, Minn. 55014.

Peabody Rebus Reading Program - REBUS. American Guidance Service, Inc., Publisher's Building, Circle Pines, Minnesota 55014.

Workbooks, 3 per student ($0.98 each). Readers, 2 per student ($0.90); $0.95 , reusable). Teacher's guides ($0.50; $2.00, reusable). Supplementary Lessons Kit ($25.00, one per class, reusable). Word cards ($3.00; $5.00). Examination set ($8.00). Preschool - 1.

The Reading Series. American Book Co., 450 W. 33rd St., New York, N.Y. 10001.

Reader's Digest Skill Builders. Educational Division, Reader's Digest Services, Inc., Pleasantville, N.Y. 10570.

Reading for Meaning Series. Houghton Mifflin Co., 2 Park St., Boston, Mass. 02107.

Reading 360 Series. Ginn and Co., P.O. Box 191, Boston, Mass. 02117.

Reinforced Readiness Requisites Program. Southwestern Cooperative Educational Laboratory, Albuquerque, N.M.

Classroom kit with teacher's manual, childrens' workshop, films, tapes, slide-tape presentations, tokens, toys ($110.00 with $72.00 in annual maintenance costs). K-1. Teachers must be trained by developer.

The Roberts English Series. Harcourt, Brace and World, Inc., 757 Third Avenue, New York, N.Y. 10017.

Sounds of Language. Holt, Rinehart and Winston, Inc., 383 Madison Ave., New York, N.Y. 10017.

Specific Skill Series Kit. Loft, Barnell, Ltd., 111 S. Centre Ave., Rockville Centre, N.Y. 11570.

Spelling and Writing Patterns. Follett Educational Corp., 201 N. Wells St., Chicago, Ill. 60606.

SRA Kits. Science Research Associates, 259 East Erie Street, Chicago, Ill. 60601.

Sullivan Reading Program, Behavioral Research Laboratories, Ladera Professional Center, P.O. Box 577, Palo Alto, Calif. 94302.

Consumable textbooks ($1.49 per book). Reusable readers ($0.99 per reader). Tests ($3.43 per set). Teacher's manuals ($8.94 per set). K-9.

Webster Reading Cards. Webster Division, McGraw-Hill Book Co., 330 W. 42nd St., New York, N.Y. 10036.

Wildlife Adventure Series. A Part of the Basic Instructional Program for Slow Readers, Grades 4-6, Field Educational Publication, Inc., 609 Mission St., San Francisco, Calif. 94105.

Wisconsin Design for Reading Skill Development, National Computer Systems, Inc., 4401 W. 76th St., Minneapolis, Minnesota 55435.

Teacher's planning guide ($2.00). Test administrator's manual ($0.75). Teacher's resource file ($9.75). Profile cards ($0.40). Flash cards ($2.00 per 100). All materials are reusable. K-6.

Wards and Patterns, Science Research Associates, Inc., 259 E. Erie St., Chicago, Illinois 60611.

Five spelling textbooks, one each year per student consumable portion $1.56; reusable $2.96. Five teacher's manuals ($2.96 each). 1-6.

MATHEMATICS

Arithmetic Concepts and Skills. Addison-Wesley Publishing Co., Inc., Reading, Mass. 01867.

Cuisenaire Rods. Cuisenaire Company of America, Inc., 12 Church St., New Rochelle, N.Y. 10805.

Elementary Mathematics: Patterns and Structure: Holt, Rinehart & Winston, Inc., 383 Madison Ave., New York, N.Y. 10017.

Greater Cleveland Mathematics Program. Science Research Associates, 259 E. Erie St., Chicago, Ill. 60611.

Individualized Mathematics System (IMS), Center for Individualized Instruction, a division of National Laboratory for Higher Education, Mutual Plaza, Durham, N.C. 27701.

Students' worksheets, teachers' manuals, mobile storage carts, tests. ($3.20 per pupil). IMS is sold as a package by the developer. 1-6.

IPI Math, Research for Better Schools, Inc., 1700 Market Street, Philadelphia, Pa. 19103. Also Southwest Educational Development Laboratory, Bill Brandon, 800 Brazos, Austin, Texas 78701.

Complete mathematics programmed materials, $10.00 per student per year. K-6.

Interdependent Learning Model for Follow Through. Donald Wolff, New York University, Institute for Developmental Studies, School of Education, 300 East Bldg., Washington Square, New York, N.Y. 10003.

Teacher's guides, consultants, and mathematic games available through contract with developer. K-3.

Intermediate Mathematics Science. Project (IMS), Nova Schools, 3600 Southwest College Ave., Ft. Lauderdale, Florida 33314.

Mathematics Laboratory Materials, Learning Research Associates, Inc., 1501 Broadway, New York, N.Y. 10036.

Student workbooks, two per year per pupil ($1.60 each). Worksheet annotations ($7.25 each, reusable). 1-3.

Math Modules, Southwest Educational Development Laboratory, Bill Brandon, 800 Brazos, Austin, Texas 78701.

Maths Minilab. Selective Educational Equipment, Inc. (SEE), 3 Bridge St., Newton, Mass. 02195.

Minilab with guide (each item in kit designed for 1 to 2 students), $32.00. This is a kit of materials cued to 145 task cards involving the materials.

Minnesota Mathematics and Science Teaching Project (MINNEMAST), Minnesota School Mathematics and Science Center, University of Minnesota, 720 Washington Ave., S.E., Minneapolis, Minnesota 55455.

Students' manuals (from $67.20 per package of 35 to $240.00). Printed aids ($0.20-3.60). Classroom kits ($111.00-$394.00). Teacher's manuals ($2.00). K-3.

Sullivan Mathematics Program. Behavioral Research Laboratories, P.O. Box 577, Palo Alto, Calif. 94302.

Student textbooks ($1.99 each, consumable). Student record book ($0.25). Final exam book ($1.49). Teacher's guides, keys, record book, etc., ($6.46 per set). Math lab ($149.95 per set, consumable). Kindergarten Readiness Box ($49.95). K-6.

SCIENCE

Elementary Science Study (ESS). Webster Division, McGraw-Hill Book Co., Manchester Road, Manchester, Mo. 63011.

Classroom kits,($17.95-$185.49). Teacher's guides, ($2.13-$2.58). Students' readers, ($0.51-$3.30). Film loops, ($11.50-$14.00). K-8.

Harvard Project Physics, Holt, Rinehart, and Winston, Inc., 383 Madison Ave., New York, N.Y. 10017.

Text ($6.54); handbook ($2.43); readers ($9.36); tests ($1.44); programmed instruction booklets; teacher's guide ($17.82); transparencies ($300.00); film loops ($1,233.00); laboratory apparatus. Grades 11-12.

Intermediate Science Curriculum Study (ISCS). Silver Burdett Company, Morristown, N.Y. 07960.

Text ($4.95); student record book ($1.65); teacher's guides. Cost of laboratory materials $5.80 per student--available from Damon Equipment Co., Needham Heights, Massachusetts. Grades 7-9.

Minnesota Mathematics and Science Teaching Project (MINNEMAST). Minnesota School Mathematics and Science Center, University of Minnesota, 720 Washington Ave., S.E., Minneapolis, Minnesota, 55455.

Students' manuals (from $67.20 per package of 35 to $240.00). Printed aids ($0.20-$3.60). Classroom kits ($111.00-$394.00). Teacher's manuals ($2.00). K-3.

Self-Instructional System in Basic Electricity. Audiscan, Inc., Box 1456, Bellevue, Washington 98009.

Audiscan TSM projector ($345.00); nine Audiscan cartridges ($360.00); circuit test board and case ($59.00); instructor's guide ($1.50); nine student workbooks ($4.50); nine pretests ($0.15); nine post-tests ($0.15). Grades 7-12.

Science - A Process Approach. Xerox Education Sciences, High Ridge Park, Stamford, Connecticut 06904.

Complete program (K-6) must be used in designated sequence. Standard Classroom Unit (teacher texts and students' kits) for each grade--$93(K)-$490 (grade 6) per Unit. Hierarchy Charts (1 per teacher)--$6(K-3) $11(4-6).

SOCIAL STUDIES

A Geo-Historical Structure for a Social Studies Curriculum. Rhode Island College Bookstore, 600 Mt. Pleasant Ave., Providence, Rhode Island 02908.

A set of 43 curriculum guides and resource units for teachers ($52.80). No student materials have been developed. Teacher training recommended by developer K-12.

Inquiry Materials for Social Studies. Holt, Rinehart, and Winston, Inc., 383 Madison Ave., New York, N.Y. 10017.

Initial cost per grade per year for student materials is $7.00 to $10.00 per student, or $1.40 to $2.00 per student over a five-year period. This includes texts, tests, audiovisual materials, and a teacher's guide. Developers recommend that entire program be adopted. Grades 9-12.

The Intergroup Relations Curriculum, Lincoln Filene Center, Tufts University, Medford, Mass. 02155

Broad objectives and statistical manual (Vol. I) and teacher's manual of specific learning activities and goals each should achieve (Vol. II) available for $10.00; Volume II alone is $7.50. Set of 25 sixteen by twenty inch photos $25.00. Grades 1-6.

Social Studies Curriculum Guides and Materials for Grades K-12.

Costs will vary according to materials chosen. Teacher's guides, resource units, student materials, and background papers available in mimeograph from Green Printing Co., 631 Eighth Ave. North, Minneapolis 55411. Education Development Corporation, 55 Chapel Street, Newton, Mass. 02160 is developing Multi-Media Kits for grades 1-4 ($175.00). Intermediate grade kits due for publication in 1972, same price range. To use the curriculum in a sequential manner, special and extended teacher training is needed. Not suitable for modular scheduling.

Taba Curriculum Development Project in Social Studies, Addison-Wesley, Inc., 2527 Sandhill Road, Menlo Park, California 94025.

Teachers' guides ($3.60); guide and materials for grades 1-4. Teachers will also find useful Hilda Taba's *Teachers Handbook for Elementary Social Studies*.

Sources of Additional Social Studies Materials

Cornish, Robert L. *The Social Studies in the Elementary School.* Fayetteville: Arkansas University, 1968. 66p.
ED 048 053

Disciplines include anthropology, sociology, economics, political science, history, and geography. For each discipline primary and intermediate activities are suggested. Also includes student and teacher resources.

Lester, Sid; and others. *A Directory of Research and Curriculum Development Projects in Social Science Education.* San Rafael, Calif.: Marin County Superintendent of Schools, 1969. 122p.
ED 042 671

100 projects reported. Gives project name, director, address, purpose, grade, subject and products K-12.

Schubert, Jane Gary; Schwarz, Paula Jane. *Development and Evaluation of an Experimental Curriculum for the New Quincy (Mass.) Vocational-Technical School. The Social Studies Curriculum.* Pittsburgh, Pa.: American Institutes for Research, 1970. 177p.
ED 047 157

Grades 10-12. Project materials information given. A curriculum developed around general vocational, citizenship, knowledge, and self-fulfillment objectives. Emphasizes problem-solving ability, individualized instruction, use of new materials and new teacher strategies.

Social Education. April 1970 (entire issue). (Order from National Council for Social Studies, 1201 16th Street, N.W., Washington, D.C. 20036. Single issue, $1.50).

Issue devoted to review and summary of available materials from 26 national social studies projects.

Social Studies Curriculum Materials Data Book. Boulder, Colo.: Social Science Education Consortium, Inc., 1971. 202p. (SSEC, 855 Broadway, Boulder, Colo. 80302; $20; $26 with March, '72 supplement)
ED 051 059

Provides analyses of curriculum materials to assist in selection of materials appropriate to needs and situation; in three sections: project materials, textbooks, and games and simulation. Each data sheet gives overview, format and cost, time necessary for implementation, user characteristics, objectives, content, teaching procedures, and evaluative data.

Suggested Guidelines for Consumer Education Grades K-12. Washington: President's Committee on Consumer Interests, 1970. 63p. (Hard copy available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402). $0.65
ED 046 822

A curriculum guide suitable for an interdisciplinary structure. Includes annotated listing of instructional and institutional resources.

Taylor, Bob L.; Groom, Thomas L. *Social Studies Education Projects: An ASCD Index.* Washington, D.C.: Association for Supervision and Curriculum Development, 1971. 91p. (ASCD, NEA, 1201 16th ST., N.W., Washington, D.C., Stock No. 611-17844, $2.00) ERIC MF $0.65.
ED 050 003

Directory lists 111 curriculum development projects at precollege levels, and provides project director, address, purposes, summaries, grade level, subject area, and published material for each project.

Turner, Mary Jane; Patrick, John J. *Materials for Civics, Government, and Problems of Democracy: Political Science in the New Social Studies.* Boulder, Colorado: Social Science Education Consortium, Inc., 855 Broadway (80302), 1971. 199p. (paperback $3.95; hardcover, $5.95).

Survey of curriculum materials packages (49) developed by 42 projects. Data on availability and cost, nature of content and educational objectives, teaching strategies, appropriateness for varying teacher-learning situations, and evaluation.

Weisgerber, Robert A. *Developmental Efforts in Individualized Learning.* Itasca, Ill.: F. E. Peacock Publishers, Inc. (401 W. Irving Park Rd., Itasca 60143; $9.50, paperback $6.40).
ED 052 612

Readings survey the state of the art of individualized learning as of 1970, and are directly concerned with operational approaches. Illustrations of programs in practice, sample materials, and diagrams of various methods of organization are given.

Wingert, Robert. *Directory of Social Studies Curriculum Projects.* Harrisburg: Pennsylvania State Department of Public Instruction, 1969. 99p.
ED 041 814

84 projects described in this directory. Project notes include director, address, summary of objectives ard activities, grade level, available curriculum materials.

MISCELLANEOUS

Job Experience Kits, Science Research Associates, 259 East Erie Street, Chicago, Illinois 60611.

Each kit contains a booklet with problems and a pad of answer sheets, and some contain supplementary material. Vocational guidance information for 20 occupations. Twenty kits, teacher's guides, and 30 answer sheets per Kit cost $130. Teacher's guide ($1.00), pad of 30 answer sheets ($0.50), regular Kits ($5.95), Kits with three-dimensionals ($8.95) available separately. Grades 8-12.

Individual Readiness Test. Regional Research Program Office, Department of Health, Education, and Welfare, 601 East 12th Street, Kansas City, Missouri. (Also available through ERIC - ED 037 253)

Only costs are those for reproduction of test materials. A reportedly culture-fair and non-verbal test in two forms (A&B). Preschool-3

Self-Instructional System in Welding. Northwest Regional Educational Laboratory, 500 Lindsay Building, 710 S.W. Second Ave., Portland, Oregon 97204.

Cost of installing this system is about $1,072 for materials for the group, $3.87 per student for expendables, and $0.33 for the instructor's guide. Grades 7-12.

Adult Basic Education: Math Individualized Learning for Adults; Reading Individualized Learning for Adults. Research for Better Schools, Inc., 1700 Market Street, Philadelphia, Pa. 19103.

Program materials extensively revised to better fit needs and interests of adult students. Available June 1972.

Aesthetic Education Learning Packages. CEMREL, Inc., 10646 St. Charles Rock Road, St. Ann, Missouri 63074.

Each package contains teacher and learner instructions and accompanying materials such as films, tape, records, puzzles, games, and graphics. From a set of packages teachers or students can choose a flexible course of study K-3.

Directories of Training Materials. Northwest Regional Educational Laboratory. 500 Lindsay Building, 710 S.W. Second Ave., Portland, Oregon 97204.

Directories are being compiled for various instructional areas in vocational education.

OTHER SOURCES OF INSTRUCTIONAL MATERIALS

Bank Street College of Education: Model for Follow Through. Elizabeth Gilkeson, Bank Street College of Education, 610 W. 112th St., New York, N.Y. 10025.

Developers provide a detailed, exhaustive listing of all the supplies needed for this preschool-3 program. List includes cost per unit for each material. (Reading and language arts, math, science, art, music, dramatic, audiovisual materials).

Continuous Progress Plan Materials. Utah State Department of Public Instruction, Division of Research and Innovation, Salt Lake City, Utah 84111.

Educational Development Center, 55 Chapel Street, Newton, Mass. 02160.

Individualized Instruction Project Materials. National Education Association, Dept. of Audiovisual Instruction, 1201 Sixteenth Street, N.W., Washington, D.C. 20036.

Learning Directory. Westinghouse Learning Corp., 100 Park Avenue, New York, N.Y.

Pennsylvania Retrieval of Information for Mathematics Education System (PRIMES). Emanuel Berger, Bureau of General and Academic Education, Pennsylvania Department, Box 911, Harrisburg, Pa. 17126.

Recommended English Curriculum Guides K-12. ERIC Document Reproduction Service, P.O. Drawer 0, Bethesda, Md. 20014.

Guide cost $1.25. Catalog has short descriptions of each curriculum guide. Included for each entry are price and distributor.

Winnetka Curriculum Materials List. Winnetka Public Schools, Winnetka, Illinois 60093.

For additional instructional materials consult *Research in Education* and *Current Index to Journals in Education* using these ERIC descriptors:

Classroom Materials
Curriculum Guides
Curriculum Planning
Instructional Aids
Instructional Materials
Instructional Materials Centers
Lesson Plans
Literature Guides
Manipulative Materials
Manuals
Mathematics Materials
Programed Materials
Resource Materials
Science Materials
Teaching Guides
Textbooks
Workbooks

INSTRUCTIONAL STAFF TRAINING FOR INDIVIDUALIZED INSTRUCTION: AN ANNOTATED BIBLIOGRAPHY

prepared by
TEXAS INFORMATION SERVICE
6504 Tracor Lane
Austin, Texas 78721
512/926-8080, Ext. 50

Research in Education issues searched:
January, 1970-November, 1971

ERIC descriptors searched:
- Individualized Instruction
- Individualized Programs
- Paraprofessional School Personnel

Related ERIC descriptors which could be searched for more information or a more complete bibliography:
- Inservice Teacher Education
- Teacher Education
- Preservice Education
- Differentiated Staffs
- Volunteers
- School Personnel

January, 1972

INSTRUCTIONAL STAFF TRAINING FOR INDIVIDUALIZED INSTRUCTION: AN ANNOTATED BIBLIOGRAPHY

Breivogel, William F.; and others. "The Florida Parent Education Model as an Agent of Change." Paper presented at the American Psychological Association Convention, 1970, Miami Beach, Florida.
ED 043 061.

Discusses parents as the paraprofessional links between school and home.

Canadian Teachers' Federation. *Paraprofessional School Personnel.* (Bibliographies in Education. No. 16). Ottawa, Ontario: CTF, 320 Queen Street, December, 1970. 33p.
ED 048 102.

Bibliography of books, articles, and theses. ED numbers are given for documents in ERIC. Most items 1966-1970; some, earlier.

Harris, Philip L. "Paraprofessionals--Their Role and Potential in the Classroom." Paper presented at the International Reading Association Meeting, 1971, Atlantic City, N. J. 16p.
ED 050 910.

Teachers should have training in management techniques in order to direct paraprofessionals teamed with them.

Johns, Joseph P.; Glovinsky, Arnold. *Paraprofessional Training Model. A Process for Training.* Detroit, Michigan: Wayne County Intermediate School District, July, 1970.
ED 049 183.

A model for training trainers of paraprofessionals. Consists of 10 3-hour sessions. Contents and objectives for each session are set out in detail.

Lang, Theodore H.; and others. *Manual for Utilization of Auxiliary Personnel.* Brooklyn, N. Y.; New York City Board of Education, Auxiliary Educational Career Unit, 95p.
ED 046 869. Not available from ERIC.

Program to employ low income neighborhood residents as auxiliary school personnel in a career-oriented work-study program. Major section of the manual outlines the training program for paraprofessionals. Included is the curriculum outline for the initial 2-week orientation, the monthly in-service training sessions, and the weekly team training of the classroom teacher with the paraprofessional.

Moshy, Claire A. *Teaching in IPI. Volumes I-V. A Program of Teacher Preparation.* Philadelphia, Pa.: Research for Better Schools, Inc., 1968.
ED 036 148, ED 036 149, ED 036 150, ED 036 151, ED 036 152.

An introductory program designed to equip the teacher with the basic skills required to plan and conduct IPI in the classroom. Volume I deals with an overview of the program and behavioral objectives. Volume II addresses testing in IPI. Volume III deals with interpretation of test results and the writing of prescriptions. Volume IV provides practice in the writing of prescriptions. Volume V consists of a case study designed to elicit from the teacher a performance based on experience gained through Volumes I-IV.

Pope, Lillie. "Blueprint for a Successful Paraprofessional Tutorial Program." Paper presented at the American Orthopsychiatric Association Meeting, 1970, San Francisco.
ED 043 463.

Use of paraprofessionals as tutors for retarded readers has proven successful in reducing failures. This program uses paraprofessionals drawn from the school's neighborhood in order to involve the community in solving some of its problems.

Steen, Margaret T.; and others. "A Program of Teacher Development for a System of Individualized Education." Paper presented at annual meeting of the American Psychological Association. September 2, 1969, Washington. 12p.
ED 034 729.

Describes an inservice development program to improve teachers' skills. Materials were presented as modules with sets of objectives and activities to be completed independently or in small groups.

Summary of a Model of Teacher Training for the Individualization of Instruction. Summary of the final report. Pittsburgh: University of Pittsburgh, 1968. 29p.
ED 035 596.

Individualized instruction is the central theme for a model for the preparation of elementary school teachers. This theme is developed through the inclusion of unique features such as emphasis on program flexibility, student self-development, and learner efficiency. Model leads to a bachelor's degree in education.

York, L. Jean. *Team Teaching as a Facilitator of the Non-graded School. Module V.* Austin, Texas: R & D Center for Teacher Education, 1971. 76p. (Leslie Press, 111 Leslie St., Dallas, Texas 75205, $2.80). ED 048 130. Not available from ERIC.

One of a series of 7 volumes on team teaching, (ED 048 126-ED 048 132), this reviews its importance in a nongraded school. It includes a review of the literature, three programed lessons dealing with graded and nongraded programs and team teaching, and study materials on team teaching.

Johnson, Rita B; Johnson, Stuart L. *Developing Individualized Instructional Material.* Durham, North Carolina: National Laboratory for Higher Education, Mutual Plaza (27701), 1971.

A series of 5 self-instructional packages to enable teachers to improve instruction has been developed. The series advocates: (1) course activities be broken into short segments so that learners can proceed at their own pace; (2) learner achievement be monitored after completion of each course segment; and (3) each instructional segment be revised until the desired level of achievement is reached by the learners.

Minicourse 8: Organizing Independent Learning (Primary Level). Berkeley: Far West Laboratory for Educational Research and Development, 1971 (For information, write: The Macmillan Company, 866 Third Ave., New York, N.Y. 10022).

This is a teacher education course providing primary (K-3) teachers with organizational skills for individualizing instruction. It consists of 4 instructional films, a teacher handbook, and a coordinator handbook.

Minicourse 5: Individualizing Instruction in Mathematics. The Macmillan Company, 866 Third Avenue, New York, N.Y. 10022.

Course provides 13 hours of self-directed training and consists of 9 films, a teacher handbook and coordinator handbook. Purchase: $1,395/ Rental: $198.00.

INSTRUCTIONAL STAFF TRAINING FOR INDIVIDUALIZED INSTRUCTION: AN ANNOTATED BIBLIOGRAPHY

prepared by
TEXAS INFORMATION SERVICE
6504 Tracor Lane
Austin, Texas 78721
512/926-8080, Ext. 50

Research in Education issues searched:
January, 1970-November, 1971

ERIC descriptors searched:
- Individualized Instruction
- Individualized Programs
- Paraprofessional School Personnel

Related ERIC descriptors which could be searched for more information or a more complete bibliography:
- Inservice Teacher Education
- Teacher Education
- Preservice Education
- Differentiated Staffs
- Volunteers
- School Personnel

January, 1972

INSTRUCTIONAL STAFF TRAINING FOR INDIVIDUALIZED INSTRUCTION: AN ANNOTATED BIBLIOGRAPHY

Breivogel, William F.; and others. "The Florida Parent Education Model as an Agent of Change." Paper presented at the American Psychological Association Convention, 1970, Miami Beach, Florida.
ED 043 061.

Discusses parents as the paraprofessional links between school and home.

Canadian Teachers' Federation. *Paraprofessional School Personnel.* (Bibliographies in Education. No. 16). Ottawa, Ontario: CTF, 320 Queen Street, December, 1970. 33p.
ED 048 102.

Bibliography of books, articles, and theses. ED numbers are given for documents in ERIC. Most items 1966-1970; some, earlier.

Harris, Philip L. "Paraprofessionals--Their Role and Potential in the Classroom." Paper presented at the International Reading Association Meeting, 1971, Atlantic City, N. J. 16p.
ED 050 910.

Teachers should have training in management techniques in order to direct paraprofessionals teamed with them.

Johns, Joseph P.; Glovinsky, Arnold. *Paraprofessional Training Model. A Process for Training.* Detroit, Michigan: Wayne County Intermediate School District, July, 1970.
ED 049 183.

A model for training trainers of paraprofessionals. Consists of 10 3-hour sessions. Contents and objectives for each session are set out in detail.

Lang, Theodore H.; and others. *Manual for Utilization of Auxiliary Personnel.* Brooklyn, N. Y.; New York City Board of Education, Auxiliary Educational Career Unit, 95p.
ED 046 869. Not available from ERIC.

Program to employ low income neighborhood residents as auxiliary school personnel in a career-oriented work-study program. Major section of the manual outlines the training program for paraprofessionals. Included is the curriculum outline for the initial 2-week orientation, the monthly in-service training sessions, and the weekly team training of the classroom teacher with the paraprofessional.

Moshy, Claire A. *Teaching in IPI. Volumes I-V. A Program of Teacher Preparation.* Philadelphia, Pa.: Research for Better Schools, Inc., 1968.
ED 036 148, ED 036 149, ED 036 150, ED 036 151, ED 036 152.

An introductory program designed to equip the teacher with the basic skills required to plan and conduct IPI in the classroom. Volume I deals with an overview of the program and behavioral objectives. Volume II addresses testing in IPI. Volume III deals with interpretation of test results and the writing of prescriptions. Volume IV provides practice in the writing of prescriptions. Volume V consists of a case study designed to elicit from the teacher a performance based on experience gained through Volumes I-IV.

Pope, Lillie. "Blueprint for a Successful Paraprofessional Tutorial Program." Paper presented at the American Orthopsychiatric Association Meeting, 1970, San Francisco.
ED 043 463.

Use of paraprofessionals as tutors for retarded readers has proven successful in reducing failures. This program uses paraprofessionals drawn from the school's neighborhood in order to involve the community in solving some of its problems.

Steen, Margaret T.; and others. "A Program of Teacher Development for a System of Individualized Education." Paper presented at annual meeting of the American Psychological Association. September 2, 1969, Washington. 12p.
ED 034 729.

Describes an inservice development program to improve teachers' skills. Materials were presented as modules with sets of objectives and activities to be completed independently or in small groups.

Summary of a Model of Teacher Training for the Individualization of Instruction. Summary of the final report. Pittsburgh: University of Pittsburgh, 1968. 29p.
ED 035 596.

Individualized instruction is the central theme for a model for the preparation of elementary school teachers. This theme is developed through the inclusion of unique features such as emphasis on program flexibility, student self-development, and learner efficiency. Model leads to a bachelor's degree in education.

York, L. Jean. *Team Teaching as a Facilitator of the Non-graded School. Module V.* Austin, Texas: R & D Center for Teacher Education, 1971. 76p. (Leslie Press, 111 Leslie St., Dallas, Texas 75205, $2.80). ED 048 130. Not available from ERIC.

One of a series of 7 volumes on team teaching, (ED 048 126-ED 048 132), this reviews its importance in a nongraded school. It includes a review of the literature, three programed lessons dealing with graded and nongraded programs and team teaching, and study materials on team teaching.

Johnson, Rita B; Johnson, Stuart L. *Developing Individualized Instructional Material.* Durham, North Carolina: National Laboratory for Higher Education, Mutual Plaza (27701), 1971.

A series of 5 self-instructional packages to enable teachers to improve instruction has been developed. The series advocates: (1) course activities be broken into short segments so that learners can proceed at their own pace; (2) learner achievement be monitored after completion of each course segment; and (3) each instructional segment be revised until the desired level of achievement is reached by the learners.

Minicourse 8: Organizing Independent Learning (Primary Level). Berkeley: Far West Laboratory for Educational Research and Development, 1971 (For information, write: The Macmillan Company, 866 Third Ave., New York, N.Y. 10022).

This is a teacher education course providing primary (K-3) teachers with organizational skills for individualizing instruction. It consists of 4 instructional films, a teacher handbook, and a coordinator handbook.

Minicourse 5: Individualizing Instruction in Mathematics. The Macmillan Company, 866 Third Avenue, New York, N.Y. 10022.

Course provides 13 hours of self-directed training and consists of 9 films, a teacher handbook and coordinator handbook. Purchase: $1,395/ Rental: $198.00.

INDIVIDUALIZED INSTRUCTION: A BIBLIOGRAPHY (1966-1971)

Part I: Individualized Programs and Practices
Part II: Behavioral Objectives
Part III: Classroom and School Organization
Part IV: Differentiated Staffing
Part V: Flexible Scheduling
Part VI: Nongraded Programs
Part VII: Student Evaluation

Annotations have been provided for items for which texts or abstracts were available.

prepared by
TEXAS INFORMATION SERVICE
6504 Tracor Lane
Austin, Texas 78721
512/926-8080, ext. 50

Sources consulted in preparing this bibliography:

Research in Education, January 1970 - November 1971. Descriptors searched: Individualized Instruction, Individualized Curriculum, Individualized Programs

Canadian Teachers' Federation, *Bibliographies in Education* series:
Behavioral Objectives in Education (No. 19), March 1971.
Differentiated Staffing (No. 15), December 1970.
Flexible Scheduling in Secondary Schools (No. 3), October 1969.
Individualized Instruction (No.13), November 1970.
Reporting to Parents (No. 6), January 1970.

January 1972

INDIVIDUALIZED INSTRUCTION: A BIBLIOGRAPHY

Part I: Individualized Programs and Practices

A. ERIC Documents

Appleby, Bruce C. *Individualized Reading in the Literature Program.* Champaign, Illinois: National Council of Teachers of English, 1967. 8p.
ED 018 411

Individualized reading, as one means of teaching literature, has proven effective in stimulating students to read on their own--as an experience rather than an exercise. Described here is a teacher-guided program in the reading of fiction.

Baley, John D.; Benesch, Mary P. *A System for Individualized Math Instruction in Secondary Schools.* Redondo Beach, Calif.: TRW Systems Group, 1969. 9p.
ED 050 555

A description of an experimental program in mathematics at a high school in Watts, California, that demonstrated that multilevel team teaching and individualized instruction produced significantly higher student achievement than did traditional methods.

Ball, Barbara; and others. *Independent and Small Group Activities for Social Studies in the Primary Grades.* Santa Monica, Calif.: Santa Monica Unified School District, 1968. 113p.
ED 031 305

A teachers guide for social studies, this manual stresses geography curriculum and activities for the primary grades. Specific teaching instructions for each unit on a specific geographic area are given. Multi-text readings, stories, tapes, field trips, games, written and oral reports, and guest speakers are frequently utilized.

Barone, Frank. *Communication Arts: Individualization through Curriculum, Content, and the Small Group.* Redlands: California Association of Teachers of English, 1969.
ED 042 747

A program of 20 non-graded courses in literature, language, and composition is discussed. This secondary English program allows students to choose their own courses and make decisions about content, structure, and methods of evaluation in a personalized learning environment. Teacher becomes a resource person who guides individualized learning and promotes communication.

Bibliography of Individualized Instructional Materials. Cleveland, Ohio: Educational Research Council of America, 1970. 57p.
ED 039 150

A general bibliography on individualized instruction is given. References given to documents bearing on IPI in mathematics, reading, social studies, and science, individualizing instruction in the elementary school, individualizing instruction in the secondary school.

Brimley, Vern. *The Central Utah Project on Individualization of Instruction.* Provo City, Utah: Provo City School District, 1968. 88p.
ED 021 301

This report describes and evaluates in narrative form methods of individualizing instruction using published and/or devised programmed materials. Complete evaluation data on each area of the project is appended.

Canadian Teachers' Federation. *Individualized Instruction.* (Bibliographies in Education No. 13). Ottawa, Ontario: the Federation, November 1970. 49p.
ED 046 881

Bibliography of books, articles, and theses. ED numbers are given for documents in ERIC. Covers 1966-1970.

Case, Rosemary Hart. "A Reading Program for Gifted Students in the Senior High School." Paper presented at International Reading Association Conference, 1968, Boston. 11p.
ED 026 206

Such a reading program for the intellectually gifted high school student must have an individualized, challenging approach that will enlarge the students' range of interests, knowledge, and ideas.

Dunn, James A. "The Development of Procedures for the Individualization of Educational Programs." Paper presented at the American Psychological Association Annual Meeting, September 5, 1970, Miami Beach, Florida. 17p.
ED 043 700

Project PLAN. This paper reviews and describes the development and improvement of the individualization procedures over a period of four years of operation of the program. Data and sample sheets are included.

Edling, Jack V., Ed. *Case Studies: Individualized Instruction.* Stanford, Calif.: ERIC Clearinghouse on Educational Media and Technology, 1970. 92p. (Institute for Communication Research, Stanford, Calif. 94305, $10)
ED 041 452 Not available from ERIC.

Presents 46 elementary and secondary programs, including goals, instructional techniques, teacher skills, effects on students, costs, and problems.

--- *Individualized Instruction: A Manual for Administrators.* Monmouth: Oregon State System of Higher Education, Teaching Research Div., 1970. 137p. (Continuing Education Publications, Waldo Hall, Corvallis, Oregon 97331, $7.50)
ED 037 096 Not available from ERIC.

Using 46 schools as evidence, this reports on objectives, instructional procedures, effects, problems, and recommendations for implementation.

Esbensen, Thorwald. *Working with Individualized Instruction: The Duluth Experience.* 1968. 122p. Available from Fearon Publishers, 2165 Park Boulevard, Palo Alto, California 94306.
ED 033 090 Not available from ERIC.

This book describes a program of individualized instruction in action. Minimum requirements for implementation are identified (e.g., in-service work for volunteer teachers in development of behavioral objectives, of materials relevant to these objectives, and of possible ways of approaching the central problem of classroom management in the formal school environment.) Sample materials, specific procedures, and evaluation observations of both practical and general value are provided.

Fagan, Edward R.; Vandell, Jean, eds. *Humanizing English: Do Not Fold, Spindle or Mutilate. Classroom Practices in Teaching English 1970-71.* Champaign, Ill: National Council of Teachers of English, 508 South Sixth Street (61820) 1970. 103p.
ED 045 666 Not available from ERIC.

Twenty-seven articles covering many phases of the language arts at all instructional levels, with an emphasis on the issue of individualization, are collected in this book.

Flanagan, John C. *The Plan System for Individualizing Education.* East Lansing, Michigan: National Council on Measurement in Education, 1971. 8p.
ED 051 296

Component aspects of PLAN, a systems approach to individualized education on elementary and secondary levels are discussed. Evaluations by individual participating teachers are noted.

Gibbs, Doris; Brgoch, Ann. [*Individualizing Mathematics in the Small School.*] Denver: Colorado State Dept. of Education, 1964. 30p.
ED 036 365

Reviews 2 teachers' attempts to individualize math instruction in grades 7 and 9. A conclusion was that a programed-materials method reaches more students than the traditional method.

Howes, Virgil M. *Individualization of Instruction: A Teaching Strategy.* New York, N.Y.: The Macmillan Co., 866 Third Ave. (10022), 1970.
ED 052 615 Not available from ERIC.

Materials chosen were felt to be the most significant descriptions of individualization as a general teaching strategy in terms of classroom application and day-to-day schooling. Readings are grouped into three sections: (1) what is individualization, (2) why individualize, and (3) descriptions of individualized programs and practices.

---. *Individualizing Instruction in Science and Mathematics.* New York: The Macmillan Co., 866 Third Ave. (10022), 1970. 213p. ($3.50)
ED 043 488 Not available from ERIC.

Anthology of articles published between 1964 and 1969 has two sections: one describing methods of individualizing instruction in science and mathematics with some examples of successful practices, and the second containing papers on technology in individualizing instruction.

Individualized Foreign Language Program. West Bend, Wisconsin: Joint School District No. 1, 1970. 137p.
ED 047 574

A summary of project objectives, procedures, and dissemination is developed in this report of work begun in June 1968. Programs in French, German, and Spanish for junior and senior high schools are evaluated. Extensive, sample instructional materials for French, German, and Spanish are included.

Individualized Instruction. PREP-16, September 1970, 104p.
ED 041 185

Analyzes 46 innovative programs operating in public schools, with information on grading practices, use of learning contracts, materials for individualizing instruction, and suggestions for implementing individualized programs.

Individualizing Instruction: A Selected Bibliography. The I/D/E/A Bibliography Series. Dayton, Ohio: Institute for Development of Educational Activities, 1968. 23p.
ED 030 619

Partially annotated list of 206 magazine articles, films, books, and pamphlets.

Klopfer, Leopold E. "An Individualized Science Learning System for the 1970's." Paper presented at the National Science Teachers Association Annual Meeting, March 13-16, 1970, Cincinnati, Ohio. 14p.
ED 039 143

IPI program in science for K-9. Organization of the program by developmental levels and organizing themes for content development are outlined. Learning resources (materials and activities) are listed and related to the attainment of the goals.

Kroenke, Richard G. "Individualizing Reading at the Junior High Level." Paper presented at International Reading Association meeting, Atlantic City, Apr. 23, 1971. 14p.
ED 051 971

Discusses several ways of meeting wide range of reading abilities. References are included.

Lipson, Joseph. "Individualization of Instruction in Junior High School Mathematics." Paper presented at the Regional Meeting of the National Council of Teachers of Mathematics, November 6, 1970, Montreal, Canada. 29p.
ED 046 742

Author defines individualization in instruction and suggests possible elements of individualization in mathematics classes. Problems of implementation and evaluative research results are discussed. The author concludes that many different types of activities should be included, extensive planning is essential, and that some group activity should be retained.

Montgomery County Board of Education. *And All This is Reading: English Language Arts Primary Reading Handbook.* Rockville, Md.: the Board, 1967. 195p.
ED 044 414

Emphasizing successful reading instruction as a nonrepetitive, creative process, units in this handbook focus on the child as an individual. Each of the 10 units provides teaching techniques and classroom examples.

Moore, James; Stevens, William. *Analysis of the Middle School Educational Programs.* Seattle, Wash.: Seattle Public Schools, Southeast Educational Center, 1969. 106p.
ED 039 280

Projected plan focuses on a combination of small groups and independent study, based on a 12-month school year.

Pieronek, Florence T. *A Survey of Individualized Reading and Mathematics Programs.* Edmonton: Alberta Teachers' Association, 1969. 66p.
ED 047 894

Report contains definitions of terms related to individualized programs, statements of rationale, guidelines for individualizing programs, and descriptions of existing programs. A comprehensive plan is proposed through which transition might be made from present to individualized program. Lists of programs visited and extensive bibliography included.

Poliakoff, Lorraine, comp. *Individualized Instruction. Part I of a Bibliographic Series on Meeting Special Education Needs.* Washington, D.C.: ERIC Clearinghouse on Teacher Education, 1970. 23p.
ED 044 381

Cites 88 documents from July 1968 to December 1969. Organization in terms of document types: bibliographies--5 items; manuals--8 items; programs--33 items; research--15 items; reviews--4 items; others--23 items. Descriptors used for indexing included in each citation.

Sartain, Harry W. *Individualized Reading, An Annotated Bibliography.* Newark, Del.: International Reading Association, 6 Tyre Avenue (19711), 1970. 19p.
ED 046 625 Not available from ERIC.

The 84 annotated items are arranged in four categories to include (1) carefully considered arguments for and against individualized reading, (2) research studies and summaries, (3) suggestions on instructional materials to be used, and (4) descriptions of programs which are fully individualized as well as those which incorporate individualized reading as one phase of the work.

Scribner, Eugene S. "A Progress Report on an Individualized-Integrated Science Course for Senior High School." Paper presented at National Association for Research in Science Teaching annual meeting, March 5-8, 1970, Minnesota. 30p. ED 040 052

Progress report of an individualized three-year science course for use in senior high school. Course integrates biology, chemistry, and physics as well as smaller units in other areas. Sequence is based on "Mini-units" with behavioral goals stated. Subjective success is claimed; objective data is being collected.

Spaulding, Robert . *The Southside Experiment in Personalized Education.* Durham, N.C.: Duke University, 1969. 16p. ED 042 505

A project, called Personalized Educational Programming, involves first-, second-, and third-graders who are grouped for planning and group activity. As a student shows he is personally responsible he is given increasing latitude in making plans for study in his daily schedule. Project has been operating since September, 1968.

Wade, Serena E. *Individualized Instruction: An Annotated Bibliography.* A Series One Paper from ERIC at Stanford. Stanford: Stanford University, ERIC Clearinghouse on Educational Media and Technology, 1968. 22p. ED 029 519

Lists and annotates 31 published books, journals and ERIC documents.

Woodring, Alberta Jayne. *Establishing an Individualized Reading Program--Rhetorical and Analytical Approaches, Upper Elementary Grades.* 1967. 29p. ED 019 188

Rhetorical and analytical approaches for establishing a comprehensive individualized reading program are presented. The assumption that if the experiences are pleasurable, the child will continue to read is basic to the total approach. Structure of the program and procedures are described. Samples of records, skill-building exercises, and directions for implementing them are included.

B. Documents Not in ERIC

Bishop, Lloyd K. *Individualizing Educational Systems.* The Elementary and Secondary School. Implications for Curriculum, Professional Staff, and Students. New York, N.Y.: Harper and Row, 49 E. 33rd St. (10016), 1971. 276p. ($7.95).

Educational Testing Service. *New Approaches to Individualizing Instruction.* Princeton, N.Y.: The Service, 20 Nassau St. (08540), 1965.

For the Love of Learning: Strategies for Implementing Individualized Instruction. A Selected Bibliography. Raleigh: North Carolina State Department of Public Instruction, Research & Information Center, 1971.

Bibliography of over 200 items including ERIC documents, books, pamphlets, articles, filmstrips, films, and 46 case studies.

Gross, Ronald; Murphy, Judith. *Educational Change and Architectural Consequences.* A Report on Facilities for Individualized Instruction. New York: Educational Facilities Laboratories, Inc., 477 Madison Ave. (10022), 1968. 90p.

Individualization in Schools: The Challenge and the Options. Washington: National School Public Relations Association, 1201 16th Street N.W., (20036), 1971. 65p. ($4.00)

A paper giving general overview and discussion of what individualized instruction is. Presents descriptions of PLAN, IGE, IPI, IMS, PLATO, the Duluth Plan, Miami Springs' "Personalized Learning," and Hawaii's "Independent Study Program."

Johnson, Stuart; Johnson, Rita B. *Developing Individualized Instructional Materials.* Palo Alto, Calif.: Westinghouse Learning Press, 2580 Hanover Street (94304), 1970.

Oba, Betty; Moss, Martha. *Individualizing Spelling Instruction in the Small School.* Denver: Colorado State Department of Education, 1964.

Stahl, Dana Kofod. *Individualized Teaching in Elementary Schools.* W. Nyack, N.Y.: Parker Publishing Co., 70 5th Ave., New York, N.Y. (10011), 1970.

Thomas, George I.; Criscimbeni, Joseph. *Individualizing Instruction in the Elementary School.* Madison, Wisconsin: Random House, Inc., 201 E. 50th St., New York, N.Y. (10022), 1967. 428p.

C. Articles

Allen, Dwight W. "How You Can Individualize Instruction, Right Now." *Nations Schools* 81:43-46; April 1968.

Carrier, Robert. "Individualizing in One Room." *Instructor* 80:79; August 1970.

Frazier, A. "Individualized Instruction." *Educational Leadership* 25:616-624; April 1968.

Gehret, Kenneth G. "Richland's Teachers Prescribe Instruction the Way Doctors Prescribe Pills." *American School Board Journal* 157:24-27; April 1969.

Herd, Arthur A. "Successful Practices in Individualized Instruction." *Bulletin of the National Association of Secondary School Principals* 55:75-82; December 1971.

Article describes briefly "a positive program which already is--not what should be, or why it should be." (p. 75). The author discusses programs in Hilton, N.Y., and presents the advantages and disadvantages of each.

Hunter, Madeline. "Tailor your Teaching to Individualized Instruction." *Instructor* 79:53-63; March 1970.

A practically oriented article discussing what individualized instruction is and is not. It answers a number of practical questions posed by teachers and administrators. Also it discusses various methods of classroom individualization through grouping according to difficulty of task, interests, attitudes, and complexity of thinking.

"9 Ways to Individualize Instruction." *School Management* 10:101-106; November 1966.

Ramsey, I.L.; Wiandt, S.L. "Individualizing Elementary School Science." *School Science and Mathematics* 67:419-427; May 1967.

Turner, Thomas N. "Individualization Through Inquiry." *Social Education* 34:72-73, January 1970.

Using inquiry as a mode of instruction has the advantage of offering opportunity for teaching very well defined and specific areas of instruction.

1/72

INDIVIDUALIZED INSTRUCTION: A BIBLIOGRAPHY

Part II: Behavioral Objectives

A. ERIC Documents

Bingman, Richard M., (ed.). *Inquiry Objectives in the Teaching of Biology.* Boulder, Colorado: Biological Sciences Curriculum Study; Kansas City, Missouri: Mid-Continent Regional Educational Laboratory, Inc., 1969. 153p. ED 037 343

Inquiry and behavioral objectives are discussed with reference to the teaching of biology. Examples and components of specified goals are given. An extensive annotated bibliography on behavioral objectives and inquiry teaching in biology is given.

Canadian Teachers' Federation. *Behavioral Objectives in Education* (Bibliographies in Education, No. 19). Ottawa, Ontario: CTF, 320 Queen Street, March, 1971. 35p. ED 051 127

Bibliography of books, articles, and theses. ED numbers are given for documents in ERIC. (1966-1970).

Curriculum Guide for Early Childhood Education. Behavioral Goals--Pre-K Through One. Schenectady, New York: Schenectady City School District, 1968. 60p. ED 027 940.

Fifty teachers formulated a chart of behavioral expectations they considered essential to the foundation and development of the child's education. Chart contains eight major goal areas--a complete chart is included.

Developing an Hierarchy of Content Suitable for Achieving Behavioral Objectives. Raleigh, N.C.: Shaw University, 1971. 55p. ED 049 194

Outlines development of a program to increase understanding of behavioral objectives. Includes information on rationale for and how to write behavioral objectives as well as objectives for elementary science, language arts, health education, physical education, mathematics, and social studies. There are also five demonstrations of the use of these methods in lessons.

Grittner, Frank, (ed.). *German Curriculum Guide 7-12; Basic Content Objectives for the Junior High School and Senior High School German Program.* Madison, Wisconsin: State Department of Public Instruction, 1968. 37p.
ED 024 289.

Grittner, Frank, (ed.). *Russian Curriculum Guide 9-12; Basic Content Objectives for the Senior High School Russian Program and Other Topics Related to the Establishment of the Articulated Program.* Madison, Wisconsin: State Department of Public Instruction, 1968. 41p.
ED 024 298.

Individually Prescribed Instruction: 1968-1970 Reading Objectives. Philadelphia, Pa.: Research for Better Schools, Inc., 1969. 62p.
ED 050 903.

Behavioral objectives for various skill areas related to reading are listed for eleven levels.

Kapfer, Miriam B. *Behavioral Objectives in Curriculum Development; Selected Readings and Bibliography.* Englewood Cliffs, N. J.: Educational Technology Publications, 140 Sylvan Ave. (07632), 1971. ($9.95)
400p.
ED 050 578. Not available from ERIC.

A compilation of practical materials on behavioral objectives. Specific examples of behavioral objectives in several curriculum areas are presented. Function of goal specification in evaluation procedure is considered. Bibliography is provided at the end of each section.

Lindvall, C. M. *Criteria for Stating IPI Objectives.* Philidelphia, Pennsylvania. Research for Better Schools, Inc., 1968. 5p.
ED 036 166.

Criteria are presented to be used in evaluating the quality of the form in which IPI objectives are stated.

Melching, William H. *Behavioral Objectives and the Individualization of Instruction.* Alexandria, Va.: George Washington University, Human Resources Research Office, May, 1969. 13p.
ED 048 821.

Gives a rationale for behavioral objectives in terms of their importance to successful individualization of instruction. If individualization is to succeed, this document states, instructors at all levels must acquire the skills necessary to prepare behavioral objectives.

Metfessel, Newton S.; and others. "Instrumentation of Bloom's and Krathwohl's Taxonomies for the Writing of Educational Objectives." Paper presented at the annual meeting of the American Educational Research Association, February 5-8, 1969, Los Angeles. 12p.
ED 028 509.

A method is shown to formulate specific behavioral objectives within the hierarchy of the major levels and sublevels of the taxonomies as set forth by Bloom (1956) and Krathwohl (1964).

Powell, William R. *Selected Objectives for the First Course in Reading.* Paper presented at International Reading Association Conference, 1968, Boston. 17p.
ED 025 376.

Importance of behavioral objectives for first year reading emphasized. A first course in reading should emphasize the development of confidence toward the teaching of reading and a knowledge of the basic speech sounds and of the framework for phonetic and structural analysis.

Schroeder, Glenn B.; and others. *Classroom Strategies: Behavioral Objectives.* Volume 2. Albuquerque, New Mexico: Southwestern Cooperative Education Laboratory, 1968. 158p.
ED 025 363.

A baseline curriculum guide developed by the Southwestern Cooperative Educational Lab in 1967 provides concomitant behavioral objectives for a full-year first grade program. Document contains discussions relevant to the development of behavioral objectives. Lesson plans, a bibliography, and a suggested reading list are included.

B. Documents not in ERIC

Avital, Shmuel M.; Shettleworth, Sara J. *Objectives for Mathematics Learning; Some Ideas for the Teacher.* Toronto, Ontario: Ontario Institute for Studies in Education, 252 Bloor St. West, Toronto 5, Ontario. 1968. 57p.

Bemis, Katherine A.; Schroeder, Glenn B. *Instructor's Manual for Teaching the Writing of Behavioral Objectives.* Albuquerque, New Mexico: Southwestern Cooperative Educational Laboratory, 117 Richmond Drive, N.E. (87106), June, 1969.

Instructor's manual for course listed below.

Bemis, Katherine A.; Schroeder, Glenn B. *The Writing and Use of Behavioral Objectives.* Albuquerque, New Mexico: Southwestern Cooperative Educational Laboratory, 117 Richmond Drive, N.E. (87106), June, 1969.

A manual for a teacher training course in construction of behavioral objectives. This manual is intended for use with formal instruction, but the authors believe teachers can benefit from reading this manual.

Bloom, Benjamin S., (ed.). *Taxonomy of Educational Objectives: the Classification of Educational Goals.* Handbook I, Cognitive Domain. New York: David McKay Co., 750 Third Ave. (10017), 1956. 207p.

Butts, David P. *Stating Behavioral Objectives, 1st Experimental Edition.* Austin, Texas: University of Texas Center for Research and Development in Teacher Education, 1970. 51p.

Kibler, Robert J.; and others. *Behavioral Objectives and Instruction.* Boston, Massachusetts: Allyn and Bacon, (Rockleigh, N. J. 07647), 1970. 196p.

Krathwohl, David R.; and others. *Taxonomy of Educational Objectives: The Classification of Educational Goals.* Handbook II: Affective Domain. New York: David McKay Co., 750 Third Ave. (10017), 1964. 196p.

Mager, Robert F. *Preparing Instructional Objectives.* Belmont, California: Fearon Publishers/Lear Siegler, Inc., Education Division, 6 Davis Drive (94002), 1962. 60p.

A book for teachers and student teachers on how to write instructional objectives that communicate clearly what the learner will be doing under what conditions and how success will be recognized.

C. Articles

Baker, Eva L. "The Instructional Objectives Exchange: Assistance in Goal-Referenced Evaluation." *Journal of Secondary Education* 45:158-162; April, 1970.

Development of specific goals for each subject area provides a basis for fair evaluation of student accomplishments.

Bivarsky, Carolyn. "Help for Your District: How to Set and Meet Learning Goals." *American School Board Journal* 157:12-13; December, 1969.

Burns, Richard W. "Behavioral Objectives: A Selected Bibliography." *Educational Technology* 9:57-58; April, 1969.

Butler, Lucius. "Performance Objectives for Individualized Instruction." *Audiovisual Instruction* 15:45-46; May, 1970.

Edling, J. V. "Educational Objectives and Educational Media." *Review of Educational Research* 38:177-194; April, 1968.

Frase, Larry; Talbert, & Gene. "Behavioral Objectives: Panacea or Holocaust?" *Audiovisual Instruction.* 16:85. March, 1971.

An article on behavioral objectives that takes into account the taxonomies (cognitive and affective) of Bloom and Krathwohl. Gives rationales for and characteristics of behavioral objectives.

Geisert, P. "Behavioral Objectives for Biology." *American Biology Teacher* 31:233-235; April, 1969.

Leithwood, Kenneth A. "Evaluating Achievement of Educational Objectives." *Orbit* 2:10-11. October, 1971.

Article discussing the development and use of behavioral objectives and criterion-referenced tests.

Morrison, E. J. "Use of Behavioral Objectives in Instructional Materials Development." *American Vocational Journal* 45: 46-48; February, 1970.

Discussion of working procedures, rules, and concepts useful in designing instructional packages to fit behaviorally stated goals.

1/72

INDIVIDUALIZED INSTRUCTION: A BIBLIOGRAPHY

Part III: Classroom and School Organization

A. ERIC Documents

Alexander, William M. *A Survey of Organizational Patterns of Reorganized Middle Schools.* Final Report. Gainesville: University of Florida, 1968. 97p.
ED 024 121

Converse, Jerry. *Classroom Organization in Meeting Individual Needs.* (paper presented at International Reading Association Conference, Anaheim, Calif., May 9, 1970.) 17p.
ED 041 719

Describes a learning-centers organization, with information about equipment, arrangements, and sources of motivational techniques.

Klausmeier, Herbert J.; and others. *The Development and Evaluation of the Multiunit Elementary School, 1966-1970. Report from the Project on Variables and Processes in Cognitive Learning.* Madison: Wisconsin University, Research and Development Center for Cognitive Learning, 1971. 23p.
ED 051 589

Report describing the larger IGE system and where the multiunit school (MUS-E) fits into it, MUS-E development and evaluation, and development-evaluation procedures.

Klausmeier, Herbert J.; and others. *Individually Guided Education in the Multiunit Elementary School: Guidelines and Implementation.* Madison, Wisconsin: Wisconsin University, Research and Development Center for Cognitive Learning, 1968. 67p.
ED 024 994

This paper and a set of correlated videotapes were prepared to be used by school personnel interested in the Multiunit school. A rationale for recommended changes is presented. Multiunit organization and differentiated staff roles are described.

Martin, Betty, ed. *Using the Media Center: Guidelines for Teachers and Media Specialists.* Greenville, S.C.: Greenville County School District, 1968. 150p.
ED 044 128

Handbook that offers suggestions for students in using media to make the maximum contribution to their intellectual and personal development. Ideas presented can be useful to teachers and media specialists in any grade or subject area.

Simmons, Marilyn. *Learning Centers in a Self-Contained Classroom.* Annapolis, Md.: Anne Arundel County Board of Education, 1970. 15p.
ED 046 647

Discusses learning centers, which are based on four concepts: self-selection, self-motivation, self-pacing, and self-correction; and describes steps in developing learning centers. Sample worksheets, activities, and organizational charts are included.

B. Documents Not in ERIC

Brubaker, Charles W.; Leggett, Stanton. *How to Create Territory for Learning in the Secondary School. The Turf Concept for the Multischool.* Chicago: McGraw-Hill, Inc., 1050 Merchandise Mart (60654), 1968.

Cazden, Courtney B. *Infant School.* Newton. Massachusetts: Education Development Center, Inc., 55 Chapel St. (02160), 1971.

Booklet contains edited transcription of an interview made by Dr. Cazden with Miss Susan M. Williams, headmistress of Gordonbrock Infant School in London. Questions asked are some of those most often asked by American educators who have encountered descriptions of infant schools in England.

Open Education at E/D/C: Films and Publications. Newton, Massachusetts: Education Development Center, Inc., 55 Chapel Street (02160), 1971 12p.

Films and publications are program descriptions of "open education" plans and practices. Annotations are provided as well as rental and purchase prices for films.

Rathbone, Charles H.; Barth, Roland S. *A Bibliography of Open Education.* Newton, Massachusetts: Education Development Center, Inc., 55 Chapel St. (02160), 1971. ($1.25).

Offers descriptions of nearly 300 books, articles, periodicals, and films, organized by subject matter. List of publishers and an index by author and by title are included.

Voight, Ralph C. *Invitation to Learning: the Learning Center Handbook.* Washington, D.C.: Acropolis Books Ltd., 2400 17th St., N.W. (20009), 1971. 149p.

A practical book describing the concept of a learning center, the necessary instructional materials, suggested room arrangements, and suggested schedules of activities.

C. Articles

Burnham, Brian. "Open Education: Some Research Answers to Basic Questions" *Orbit* 2:22-24. December 1971.

Open concept schools were compared to traditional schools as controls. Behavioral differences evidenced by pupils as well as achievement differences in basic skills (math and reading) are discussed. Data generally favors open concept schools.

Killough, Kay. "The Matzke Resource Center." *Audiovisual Instruction* 15:61; February 1970.

Briefly described are operations of an elementary school learning center where students come and go as they like. Only rule is that student must have and fulfill a purpose. Resource center is thus supportive of nongraded, individualized programs.

McAnulty, Laura. "Media-based Learning Resources Center." *Audiovisual Instruction* 15:50, 53-54; February 1970.

Described and diagramed are the facilities of a well equipped learning center designed for the needs of a small junior and senior high school.

1/72

INDIVIDUALIZED INSTRUCTION: A BIBLIOGRAPHY

Part IV: Differentiated Staffing

A. ERIC Documents

Canadian Teachers' Federation. *Differentiated Staffing* (Bibliographies in Education No. 15). Ottawa, Ontario: CTF, 320 Queen Street, December 1970. 12p.
ED 045 608

Bibliography of books, articles, and theses. ED numbers are given for documents in ERIC. (1966-1970).

Earl, S.A. *Differentiated Staffing.* Paper delivered at Western Canada Administrators' Conference, October 10, 1969. Banff, Alberta. 29p.
ED 036 885

This paper discusses aspects of differential staffing, the advantages and disadvantages of differential teaching assignments, and examples of programs that have been described in recent literature.

English, Fenwick W. *A Handbook of the Temple City Differentiated Staffing Project. An Up-To-Date Revision of Project Procedures and Policies.* Temple City, Calif.: Temple City Unified School District, 1970. 48p.
ED 052 144

This document provides a detailed model for the development of a differentiated staffing program, which can continue to be modified. The roles and responsibilities of the various staff members are described in detail and include the associate teacher, senior teacher, master teacher, and paraprofessional. Concepts of promotion, selection, and evaluation of personnel are examined.

McKenna, Bernard H. *A Selected Annotated Bibliography on Differentiated Staffing.* Washington: NEA, NCTEPS and ERIC Clearinghouse on Teacher Education, 1969. 15p.
ED 033 898

Thirty-one items are annotated and deal directly with differentiation of school staffs (reports on auxiliary personnel, team teaching, and other staffing arrangements are not included.) ED numbers are noted on nine items.

Provus, Malcolm; and others. *Staffing for Better Schools* (Under Title I, Elementary and Secondary Education Act of 1965). Washington: U.S. Government Printing Office, 1967. 47p. ED 034 717

A discussion of school staffing divided into five chapters each dealing with a different role: (1) "Training Better Teachers and Getting New Ones," (2) "Aides for Teachers," (3) "School Volunteers," (4) "Child-to-Child Tutoring," (5) "A Community Has All the People A School Needs."

York, L. Jean. *Team Teaching Modules, I-VII.* Austin: University of Texas, Research and Development Center for Teacher Education, 1971. (Leslie Press, 111 Leslie St., Dallas, Texas 75205; $2.80 each Vol., $19.60 set of seven)
ED 048 126 - ED 048 132 Not available from ERIC.

A series of 7 volumes on team teaching dealing with such concepts as roles of professional and paraprofessional personnel, materials and resources for team teaching in individualized instruction, grouping, importance in a nongraded school, evaluation of team teaching, and planning sessions in team teaching.

B. Documents Not in ERIC

Differentiated Staffing: A Review of Literature and Research. Austin, Texas: Texas Education Agency, Division of Program Development, 201 East 11th Street (78711), March, 1970. 25p.

This literature review goes into detail concerning teacher role differentiation, role responsibility, numbers of personnel needed in each role, appropriate salary schedules, and other such practical matters. A section on problems and unresolved issues is included as well.

Team Teaching - An Approach to Individualized Learning. Austin, Texas: Texas Education Agency, Division of Program Development, 201 East 11th Street (78711), March, 1967. 14p.

This paper includes discussions of rationale purposes, guiding principles, taxonomy, operation, and evaluation of team teaching. Bibliography included.

C. Articles

Allen, Dwight W. "Differentiated Staff; Putting Teaching Talent to Work." *Kentucky School Journal* 47:21-23; February 1969.

Hedges, W. D. "Differentiated Teaching Responsibilities in the Elementary School." *National Elementary Principal* 47:48-54; September 1967.

Krumbein, Gerald. "How to Tell Exactly What Differentiated Staffing Will Cost Your District." *American School Board Journal* 157:19-24; May 1970.

Nystrand, R.O.; Bertalaet, F. "Strategies for Allocating Human and Material Resources." *Review of Educational Research* 37:448-68; October 1967.

Rand, M. John; English, Fenwick. "Towards a Differentiated Teaching Staff." *Phi Delta Kappan* 49:264-268; January 1968.

1/72

INDIVIDUALIZED INSTRUCTION: A BIBLIOGRAPHY

Part V: Flexible Scheduling

A. ERIC Documents

Allan, Blaine W. *Scheduling.* Las Vegas: Clark County School District, 1967. 18p.
ED 027 131

Major topic is the modular scheduling program developed for Virgin Valley High School in Mesquite, Nevada. Included is an example of a hand-generated modular schedule system which is adaptable in schools with a 200-300 student population. A bibliography on modular scheduling is appended.

Anderson, David Neil. *Daily Modular Scheduling Practice at Pahranaget Valley High School.* Report. Carson City, Nevada: Western States Small Schools Project, 1966. 91p.
ED 027 993

Specific reference in this discussion is two types of instruction, schedule procedures, and conflict problems. Evaluation of the scheduling system is included. Review of the literature on modular scheduling is also included.

Davis, Harold S.; Bechard, Joseph E. *Flexible Scheduling.* Cleveland, Ohio: Educational Research Council of America, 1968. 31p.
ED 022 254

This pamphlet presents various "master" schedules for flexible scheduling: (1) simple block schedules, (2) back-to-back schedules, (3) interdisciplinary schedules, (4) school-wide block schedules, (5) open-lab schedules, (6) rotating schedules, (7) block-modular schedules, and (8) flexible-modular schedules. Diagrams accompany each of the schedules.

Jesse, David L.; Stutz, Rowan C., (eds.) *Scheduling for Flexibility in Small Schools.* Salt Lake City, Utah: Western States Small Schools Project, 1966. 20p.
ED 021 657

In order to provide a wider variety of curriculum offerings and meet individual needs, the WSSP adopted modular scheduling. Advances in computer technology have made this approach possible. The phases in the process of implementation and role of administrator and consultants necessary for the program are discussed.

B. Documents Not in ERIC

Canadian Teachers' Federation. *Flexible Scheduling in Secondary Schools*. (Bibliographies in Education No. 3). Ottawa, Ontario: the Federation, 320 Queen Street, October 1969. 10p.

Bibliography of books, articles, and theses. ED numbers are given for documents in ERIC. (1965-1969).

Institute for Development of Educational Activities, Inc. (IDEA). *The Flexibly Scheduled School of 1980*. Occasional Paper. Melbourne, Florida: IDEA, Information Services Division, P.O. Box 446 (32901), 1969.

Wiley, W. Deane; Bishop, Lloyd K. *The Flexibly Scheduled High School*. West Nyack, N.Y.: Parker Publishing Co., 70 5th Avenue, New York, N.Y. (10011), 1968. 208p.

C. Articles

Brammer, K. "How to Plan a Flexible Schedule." *Industrial Arts and Vocational Education* 57:44-45; December 1968.

Goodridge, L.E. "Five Flexible Schedules that Work; Time Blocks Put Daily Schedule in Teachers' Hands." *Nations Schools* 82:31; April 1968.

Hofmann, E.B. "Brookhurst Plan: An Experiment in Flexible Scheduling." *NEA Journal* 54:50-52; September 1965.

Paul, G.A.; Casey, R. "SHMOFSP: South Hills Manually Operated Flexible Scheduling Program." *Journal of Secondary Education* 40:299-302; November 1965.

Sleight, R.H. "Administrative Problems as a Result of Flexible Scheduling and Team Teaching." *Journal of Secondary Education* 42:358-362; December 1967.

1/72

INDIVIDUALIZED INSTRUCTION: A BIBLIOGRAPHY

Part VI: Nongraded Programs

A. ERIC Documents

Avon Public Schools. *Avon's Nongraded Elementary and Middle School Reading Program.* Avon, Conn.: the Schools, 1968. 131p. (also available from Supt. of Schools, 50 Simsbury Rd., Avon, Conn. 06001, $5.00)
ED 042 776

Presents the philosophy, evalution, structure, and implementation of a nongraded reading program organized on 23 sequential learning levels. Readiness checklists, reading inventories, sample report cards, and a discussion of parent-teacher conferences are included.

Beck, Isabel L.; Bolvin, John O. *A Model for Non-Gradedness: The Reading Program for Individually Prescribed Instruction.* Pittsburgh, Pa.: Pittsburgh University, Learning Research and Development Center, 1969. 8p.
ED 033 832

A model curriculum for individually prescribed reading instruction based on a linguistic approach to reading was developed. Four overlapping stages of reading were defined and about 400 behavioral objectives written and sequenced by difficulty. Learner competence is judged on basis of four diagnostic instruments.

Cogswell, John F.; Marsh, Donald G. *System Design for a Continuous Progress School--Computer Simulation of Autonomous Scheduling Procedures.* Santa Monica, California: System Development Corporation, 1966. 21p.
ED 010 564

Patterns of resource demand were determined for the assignment of one hundred high school students to five courses at one time. Whenever a student would require help, he could file a request for help and go on to his work in another course. The system was found useful for expanding simulation capability and for exploring its uses in course design.

Egbert, Robert L.; Cogswell, John F. *System Design for a Continuous Progress School - Part I.* Santa Monica, California: System Development Corporation, 1964. 87p.
ED 010 561

This first part of a four-part report relates the substance of interviews with Edmund Reed concerning the characteristics of the continuous progress school plan. The uniqueness of the plan is that it involves a radical departure from the traditional curriculum and an extensive use of new media. The authors describe here student movement through the school and preregistration and registration procedures.

---. *System Design for a Continuous Progress School - Part II. Surveillance and Detection System.* Santa Monica, California: System Development Corporation, 1964. 52p.
ED 101 562

The purpose of the described surveillance and detection system (part of an information processing center) is to monitor and survey study activities of students, to detect the presence of real and immanent problems in student performances, and to alert proper personnel for action.

---. *System Design for a Continuous Progress School - Part III. The Instructional Materials Center.* Santa Monica, California: System Development Corporation, 1964. 23p.
ED 010 563

The authors conceive the Instructional Materials Center as combining the functions of the library, the bookstore, the audiovisual center, and the Materials Development Center.

Fraser, David, and others. *Middle School Overview.* Seattle, Wash.: Seattle Public Schools, Southeast Educational Center, 1969. 60p.
ED 039 279

Describes the middle school facilities of the Center, organized on the continuous progress concept.

Freck, Paul. *Telluride Nongraded Elementary School.* Denver: Colorado State Dept. of Education, 1963. 27p.
ED 036 358

Describes the school's conversion to a nongraded program, with reading and arithmetic set up for individualized instruction. Promotion and retention were abolished. Includes sample report cards and materials for evaluating skills by achievement levels.

Jefferson County Board of Education. *Phase-Elective English: An Experimental Program for Grades 11 and 12.* Louisville, Ky.: the Board, 1969. 170p.
ED 037 458

Reports an experimental program with 26 nongraded elective English courses divided into 5 ability-level phases. Literary objectives, outline of content, description of activities, teaching approaches, list of supplementary materials are provided for each 12-week course.

Kaffer, Philip G.; Ovard, Glen F. *Preparing and Using Individualized Learning Packages for Ungraded, Continuous Progress Education.* Englewood Cliffs, N.J.: Educational Technology Publications, 1971. 264p. ($8.95)
ED 050 565 Not available from ERIC.

This guide contains a program to teach teachers to construct their own individualized learning packages, which offer alternative ways of meeting stated objectives and allow students to help plan their own learning strategies.

Larsen, David. *Orono High School's Phase-Elective English Program.* Augusta: Maine State Dept. of Education, 1969. 13p.
ED 038 417

Describes a program where students select according to their interests from among 37 courses, classified along degrees of difficulty. Appendixes include descriptions of the 37 courses.

Miles, Dorothy F. "A Thumb-Nail View of a Few: A Special Report on Ungraded or Non-graded Programs in English." Burlington, Vt.: New England Assn.of Teachers of English, 1970. 8p.
ED 044 398

Visits to 25 ungraded programs in high school English revealed use of contracts, activity packages, student options of traditional or innovative programs, individualized instruction. Evaluation indicated that a course structured on phase levels in sequence would best encourage initiative and infinite potential of both student and faculty. Resumes of 7 unique programs are included.

Otto, Henry J., and others. *Nongradedness: An Elementary School Evaluation.* Bureau of Laboratory Schools Monograph 21. Austin: University of Texas, 1969. 133p.
ED 036 889

Reports research on nongradedness in an Austin school, to investigate differences and similarities between nongraded and graded classes. The results were mixed.

Paulsen, Gordon L. *An Ungraded Intermediate Level Science Program, Levels 4 Through 6.* Dickinson, N. Dak.: Dickinson Public Schools, 1968. 89p.
ED 032 215

A curriculum guide for use in an ungraded elementary school science program.

Rogers, Luther H.; Breivogel, William F. *The Nongraded School.* Gainesville: Univ. of Florida, 1968. 50p.
ED 033 083

Presents the case for and against nongradedness and reviews research. Also gives a list of steps for implementing an organizational plan, including grouping, curriculum revision, scheduling, evaluation.

Sowers, Paul C. *Nongrading Your Elementary School.* NASEC Monograph Series, Spectrum. Flagstaff: Northern Arizona Supplementary Education Center, 1968. 27p.
ED 030 943

Special features of a nongraded elementary school program are reviewed as a guide to those wishing to implement the concept as a way to provide individualized instruction and quality education for all students. Bibliography included.

B. Documents Not in ERIC

Committee on Patterns of School Organization for Nongraded Elementary and Secondary Schools. *Nongraded Schools: General Guidelines for Development.* Austin, Texas: Texas Education Agency, Division of Program Development, 201 East 11th Street (78711), November, 1967. 16p.

Discussion of the rationale, objectives, process of changeover and role of the teacher for nongraded programs. Bibliography included.

Miller, Richard O. *The Nongraded School, Analysis and Study,* especially pp. 25-26, 82-85, 210, 240-241, 243-250. New York: Harper & Row, 49 E. 33rd St. (10016), 1967. 289p.

Ontario Teachers' Federation. "Report to Parents." *Handbook on the Non-Graded School,* pp. 16-17. Toronto: the Federation, 1968. 60p.

C. Articles

Dagne, Frank A.; Barnickle, Donald W. "Two Schools That Are Nongraded: How... What... Why." *Instructor* 78:63-70; March 1969.

Department of Elementary School Principals. *The Nongraded School.* Washington, D.C.: the Dept., 1968. 94p. (a reprint of articles from Nov. 1967 and Jan. 1968 issues of *The National Elementary Principal.)*
ED 032 242 Not available from ERIC.

20 articles suggest guidelines for planning, establishing, and maintaining a nongraded school, discuss teacher responsibilities, survey current practices, suggest inservice training methods for administrators and teachers, etc.

Kaplan, Abraham. "Individualization Without Nongradedness." *Instructor* 79:66-67, February 1970.

Deals with innovations in individual instruction.

1/72

INDIVIDUALIZED INSTRUCTION: A BIBLIOGRAPHY

Part VII: Student Evaluation
(Diagnosis, Testing, Reporting to Parents)

A. ERIC Documents

Cox, Richard C.; Boston, Elizabeth M. *Diagnosis of Pupil Achievement in the Individually Prescribed Instruction Project.* Working paper 15. Pittsburgh: University of Pittsburgh, Learning Research and Development Center, 1967. 41p.
ED 023 296

Diagnostic instruments of IPI program measure pupil achievement in the IPI continuum. The four types of IPI tests are discussed, and samples are provided.

Davis, Frederick B. "Criterion-Referenced Tests". Paper presented at the American Educational Research Association annual meeting, 1971, New York. 11p.
ED 050 154

Paper attempts to clear up confusion felt by many over criterion-referenced and norm-referenced tests. Discusses appropriateness of certain types of tests to educational evaluation.

Feldnesser, Robert A. *The Positive Functions of Grades.* Washington, D.C.: AERA, 1971. 19p.
ED 049 704

Discusses and defends the functions of grades.

Nitko, Anthony J. *A Model for Criterion-Referenced Tests Based on Use.* Pittsburgh, Pa.: Learning Research and Development Center, February, 1971. 17p.
ED 049 318

The nature and purpose of criterion-referenced testing is discussed in light of test design procedures. The value of certain test construction procedures in designing criterion-referenced tests for use in adaptive individualized instruction systems is discussed.

Rahmlow, Harold F. *Use of Student Performance Data for Improvement of Individualized Instructional Materials.* Palo Alto: American Institutes for Research, 1969. 27p.
ED 032 792

A discussion of the computerized capability for modification of Project PLAN materials in accordance with computer-stored pupil data.

Smith, Lawrence G., comp. *Study Materials Relating to Grades and Grading Systems.* 1969. 92p.
ED 040 700

Presents arguments for and against traditional grading methods, with references given from pertinent journal articles and books.

B. Documents Not in ERIC

Canadian Teachers' Federation. *Reporting to Parents* (Bibliographies in Education No. 6). Ottawa, Ontario: the Federation, 320 Queen Street, January 1970. 6p.

Bibliography of books, articles, and theses. ED numbers are given for documents in ERIC. (1965-1969).

Dufay, Frank R. "A Look at the Reporting System," *Ungrading the Elementary School*, pp. 143-147. West Nyack, New York: Parker Publishing Co., 70 5th Avenue, New York, N.Y. (10011), 1966. 230p.

Goodlad, John O.; Anderson, Robert H. "Reporting Pupil Progress in the Nongraded School," *The Nongraded Elementary School*, pp. 102-141. Revised edition. New York: Harcourt, Brace and World, 757 Third Ave. (10017), 1963. 248p.

C. Articles

Chadwick, R.E.; and others. "Report Card in a Nongraded School." *National Elementary Principal* 47:22-28; January 1968.

Frenkel, H. "Individualized Report Cards." *Instructor* 75:38; September 1965.

A TIS PACKAGE UPDATE

to

Individualized Instruction: Selected Elements, Programs, and Instructional Materials

March 1973

In an effort to enhance the usefulness of its package on Individualized Instruction, the Texas Information Service has updated the reference materials included there. This supplementary package update contains:

- The 1973 Demonstration Schools in Individualized Instruction
- Individualizing Instruction: A 1972 Annotated Bibliography
- Regional Service Center Materials: Individualized Instruction
- 10X Catalog of Objectives Collections and Related Materials (Winter, 1972)

Texas Information Service
6504 Tracor Lane
Austin, Texas 78721
512/926-8080

March 1973

1973 DEMONSTRATION SCHOOLS IN INDIVIDUALIZED INSTRUCTION
(People to Contact)

REGION I

Lincoln Elementary
Edinburg CISD
SUBJECTS: Mathematics, Reading
Spelling, 1-5

Contact: Andres Lopez
Principal
or Don Pennock
Director of
Instruction and
Federal Projects
1319 East Lovett
Edinburg 78539
Telephone: 512-383-3113 (School)
512-383-4951 (ISD)

Lincoln-Lee Elementary
Lyford ISD
SUBJECTS: Reading Clinic
Oral Language

Contact: Rosendo Rodriguez, Jr.
Principal
or Mary Schlessiger
Director
Highland Avenue
Lyford 78569
Telephone: 512-347-3521

San Isidro Elementary
San Isidro ISD
SUBJECTS: Mathematics
Reading, 1-5

Contact: Vincent Vicinaiz
Principal
San Isidro Elementary
San Isidro 78588
Telephone: 512-481-3311

REGION II

Meadowbrook Elementary
Corpus Christi ISD
SUBJECTS: Language Arts
Reading

Contact: David S. Nickerson
Principal
901 Meadowbrook Dr.
Corpus Christi 78412
Telephone: 512-853-9001

Richard King High School
Corpus Christi ISD
SUBJECTS: History, English
Mathematics

Contact: Roger Kent Pogue
Principal
5225 Gollihar
Corpus Christi 78412
Telephone: 512-853-0136

REGION IV

Ashford Elementary
Houston ISD
SUBJECTS: K-6

Contact: Clyde Blackman
Principal
1815 Shannon Valley Dr.
Houston 77077
Telephone: 713-497-1302
713-497-7600
713-497-7601

REGION IV cont.

Blue Ridge Elementary
Fort Bend ISD
SUBJECTS: All, K-5

Contact: L.R. Ledger
Principal
6241 McHard Road
Stafford 77477
Telephone: 713-437-7363

Barbers Hill Elementary
Barbers Hill ISD
SUBJECTS: All, K-5

Contact: John Wheeler
Principal
Progress and
Sunny Lane
Mt Belvieu 77580
Telephone: 713-576-2221

Ponderosa Elementary
Spring ISD
SUBJECTS: All, K-5

Contact: Virginia Simmons
Principal
17202 Butte Creek
Houston 77090
Telephone: 713-444-4320

John A. Winship Elementary
Spring ISD
SUBJECTS: Language Arts
Mathematics, 1-5

Contact: Harold C. Miller
Principal
2175 Spring Creek Dr.
Spring 77373
Telephone: 713-353-9750

REGION IV cont.

Westchester Junior High School
Spring Branch ISD
SUBJECTS: All, 6-7-8

Contact: J.D. Rhoads
Principal
1001 North Kirkwood
Houston 77043
Telephone: 713-497-3333

REGION V

Dick Dowling Elementary
Port Arthur ISD
SUBJECTS: All, K-6

Contact: Evelyn Sechler
Principal
6301 Pat Avenue
Port Arthur 77640
Telephone: 713-736-2700

Fletcher Elementary
Beaumont ISD
SUBJECTS: All, 2-3

Contact: Lurline Bean
Principal
or Cynthia Wilkinson
Team Leader
1050 Avenue E
Beaumont 77701
Telephone: 713-833-3831

REGION VI

Stephen F. Austin High School
Bryan ISD
SUBJECTS: All, 9-10

Contact: Leon Jackson
Principal
801 South Ennis
Bryan 77801
Telephone: 713-822-5232

Bryan High School
Bryan ISD
SUBJECTS: Science, Social Studies
English, 11-12

Contact: Bobby Joe Beard
Principal
or Marie McDonald
Curriculum Coor.
3401 East 29th
Bryan 77801
Telephone: 713-822-3711

St. Thomas Episcopal School
Non-public
SUBJECTS: All, Kindergarten

Contact: Reverend William Oxley
or Mary Oxley
906 Jersey
College Station 77840
Telephone: 713-846-1726
713-846-7834

REGION VII

Reagan Elementary
Palestine ISD
SUBJECTS: All, 1-2

Contact: Alan B. Gilchrest
410 Micheaux St.
Palestine 75801
Telephone: 713-729-1833
713-729-1869

REGION VII cont.

Baker-Koonce-Turner Schools
Carthage ISD
SUBJECTS: Remedial, Mathematics
3-9

Contact: Nettie Shaw
Drawer D
Curriculum Materials
Center
Carthage 75633
Telephone: 214-693-5325

REGION IX

McNeil Junior High School
Wichita Falls ISD
SUBJECTS: Basic

Contact: Johnnie Ozee
Principal
4712 Barnett Rd.
Wichita Falls 76310
Telephone: 817-692-7621

Vernon Intermediate School
Vernon ISD
SUBJECTS: Reading

Contact: Bernard Passmore
Principal
2201 Yamparika
Vernon 76384
Telephone: 817-552-6231

REGION X

Birdie Alexander Elementary
Dallas ISD
SUBJECTS: Language Arts
Mathematics

Contact: Kenneth N. Brashear
Principal
1830 Goldwood Dr.
Dallas 75232
Telephone: 214-224-5551

REGION X cont.

F.P. Caller Elementary
Dallas ISD
SUBJECTS: All, 1-6

Contact: Joel P. Pittman
Principal
3033 Merrell Rd.
Dallas 75229
Telephone: 214-252-9729

Marvin Elementary
Waxahachie ISD
SUBJECTS: All, K-3

Contact: C.A. Riddle
Principal
101 East Marvin
Waxahachie 75165
Telephone: 214-937-1270

Memorial Elementary
Plano ISD
SUBJECTS: All, K-6

Contact: Don Dunlap
Principal
2600 Avenue R
Plano 75074
Telephone: 214-424-5312

W.H. Gaston Junior High School
Dallas ISD
SUBJECTS: Language Arts, Science
Mathematics, 8-9

Contact: Robert J. Robinson
Principal
9565 Mercer Dr.
Dallas 75228
Telephone: 214-328-3519

REGION X cont.

Waxahachie High School
Waxahachie ISD
SUBJECTS: English, 10-12

Contact: Harold B. Dorsey
Principal
Highway 77 North
Waxahachie 75165
Telephone: 214-937-6800

Paul L. Dunbar Community
Learning Center
Dallas
SUBJECTS: Preschool, through 6
All

Contact: Robert Brown, Jr.
Director
4200 Metropolitan
Dallas 75210
Telephone: 214-428-5404

The Lamplighter School
Non-public
SUBJECTS: Preschool & Primary

Contact: Natalie Murray
Co-director
or Marieta Swain
Co-director
11611 Inwood Road
Dallas 75229
Telephone: 214-369-9201

St. Bernard's Catholic School
Non-public
SUBJECTS: Mathematics, 6-7-8

Contact: Sister Marguerite
Connors
Principal
1420 Old Gate Lane
Dallas 75218
Telephone: 214-321-2897

REGION XI

Alice Carlson Elementary
Fort Worth ISD
SUBJECTS: Mathematics, Reading
Science, K-5

Contact: Thomas Young
Principal
3320 West Cantey
Fort Worth 76109
Telephone: 817-927-2735

Dove Elementary
Grapevine ISD
SUBJECTS: Mathematics, Reading
K-level 5

Contact: Al Miller
Principal
1932 Dove Road
Grapevine 76051
Telephone: 817-488-7233

Hurst Hills Elementary
Hurst-Euless-Bedford ISD
SUBJECTS: Open School
Learning Packets, 1-6

Contact: Daniel Maddalun
Principal
525 Billie Ruth Lane
Bedford 76053
Telephone: 817-284-1921

Sagamore Hill Elementary
Fort Worth ISD
SUBJECTS: Creative use of
scheduling for
creative courses, K-5

Contact: Jack Smith
Principal
701 Hughes Street
Fort Worth 76103
Telephone: 817-535-7632

REGION XI cont.

J.B. Little Elementary
Arlington ISD
SUBJECTS: Open Concept
Team Teaching

Contact: Flo Gobbel
Principal
4215 Little Road
Arlington 76016
Telephone: 817-478-9289

Berta May Pope Elementary
Arlington ISD
SUBJECTS: Contracts, 1-6

Contact: J.D. Bradham
Principal
901 Chestnut Ave.
Arlington 76012
Telephone: 817-374-1534

Woodrow Wilson Elementary
Denton ISD
SUBJECTS: Open Concept, Grade 1

Contact: Sammy Spratt
Principal
1501 Emerson
Denton 76021
Telephone: 817-382-9313

Bedford Junior High School
Hurst-Euless-Bedford ISD
SUBJECTS: Reading, Social Studies
Mathematics, 7-8

Contact: Irwin Mathews
Principal
325 Carolyn Dr.
Bedford 76021
Telephone: 817-281-4940

REGION XI cont.

Leonard Middle School
Fort Worth ISD
SUBJECTS: Mathematics, Reading
English, Non-graded

Contact: Paul Pearson
Principal
8900 Chapin Road
Fort Worth 76116
Telephone: 817-244-3434

Rosemont Middle School
Fort Worth ISD
SUBJECTS: Industrial Arts
Bilingual, 6-8

Contact: Dan Rhome
Principal
1510 West Seminary Dr.
Fort Worth 76115
Telephone: 817-927-5364

Nolan High School
Non-public
SUBJECTS: Science, Modular
Scheduling Packets

Contact: Brother Henry Ringkamp
4501 Bridge Street
Fort Worth 76103
Telephone: 817-457-2920

REGION XII

St. Paul's Episcopal School
Non-public
SUBJECTS: All, except science
K-6

Contact: Jimmie Jean Owen
Principal
517 Columbus
Waco 76702
Telephone: 817-753-0246

REGION XIII

Bonham Elementary
San Marcos ISD
SUBJECTS: Preschool,
Kindergarten,
IGE Program

Contact: LaRue Miller
Principal
210 Lee Street
San Marcos 78666
Telephone: 512-392-4544

Highland Park Elementary
Austin ISD
SUBJECTS: Language Disabilities
Reading, K-6

Contact: Wayne Richards
Principal
4900 Fairview
Austin 78731
Telephone: 512-465-6313

Pecan Springs Elementary
Austin ISD
SUBJECTS: Continuous Progress
Mathematics, Non-graded

Contact: Charles Henderson
Principal
3100 Rogge Lane
Austin 78723
Telephone: 512-926-2511
512-926-7767

West End Elementary
Taylor ISD
SUBJECTS: K-6

Contact: Dawn Mayers
Principal
1301 West 4th St.
Taylor 76574
Telephone: 512-352-6622

REGION XV

Wall Elementary
Wall ISD
SUBJECTS: All

Contact: Wilbert Jost
Principal
12 miles east of
San Angelo on
Highway 987
Wall 76901
Telephone: 915-653-0725

REGION XVI

Hillcrest Elementary
Dumas ISD
SUBJECTS: Social Studies, 5-6
Reading, 4-6
English, 5-6

Contact: O.C. Spears
Principal
6th and Pear
Dumas 79020
Telephone: 806-935-4158

Tierra Blanca Elementary
Hereford ISD
SUBJECTS: All, Age 4-Grade 6

Contact: Phillip Shook
Principal
or Robert Holman
Asst. Supt.
Columbia Drive
Hereford 79045
Telephone: 806-364-0423 (School)
806-364-0606 (ISD)

REGION XVII

Brownfield Intermediate School
Brownfield ISD
SUBJECTS: Reading, Mathematics
Language Arts, 4-5

Contact: Dale Sides
Principal
302 East Main
Brownfield 79316
Telephone: 806-637-4997

Brownfield Middle School
Brownfield ISD
SUBJECTS: Mathematics

Contact: Don Hendley
Principal
1001 East Broadway
Brownfield 79316
Telephone: 806-637-4529

Lubbock Adult Learning Center
Lubbock ISD
SUBJECTS: Adult Basic Education

Contact: H.E. Owen
Director
or William D. Reddel
Material Specialist
or Mrs. Fred Young
Director, Adult
Learning Center
610 Avenue Q
Lubbock 79401
Telephone: 806-747-1771
806-762-3704

REGION XVIII

Travis Elementary
Midland ISD
SUBJECTS: Language Arts, 1-3

Contact: Jack Hightower
Principal
900 East Gist
Midland 79701
Telephone: 915-684-8371

REGION XIX

Burnet Elementary
El Paso ISD
SUBJECTS: All, 1-6

Contact: Don Mitchell
Principal
3700 Thomason St.
El Paso 79904
Telephone: 915-566-1656

Magoffin Elementary
El Paso ISD
SUBJECTS: All, K-8

Contact: Jack Marcell
Principal
4931 Hercules
El Paso 79904
Telephone: 915-755-7695

Henderson Intermediate
El Paso ISD
SUBJECTS: Language Arts, Mathematics
Reading, Science, Social
Studies

Contact: Bob Anaya
Coordinator
5505 Comanche
El Paso 79905
Telephone: 915-778-4401

REGION XX

Kindred Elementary
South San Antonio ISD
SUBJECTS: Mathematics,
Reading, 1-3

Contact: Albert Casillas
Principal
2515 Navajo St.
San Antonio 78224
Telephone: 512-924-4781

Clear Spring Elementary
North East ISD
SUBJECTS, All, 1-5

Contact: Esther Pape
Principal
4311 Clear Spring
San Antonio 78286
Telephone: 512-655-6055

Holy Spirit School
San Antonio
SUBJECTS: Science, Mathematics
Language Arts
Social Studies, 1-8

Contact: Sister M. Martin, OSB
Principal
770 West Ramsey
San Antonio 78216
Telephone: 512-349-1169

INDIVIDUALIZING INSTRUCTION: A 1972 ANNOTATED BIBLIOGRAPHY

Supplement to the Texas Information Service Package
Individualized Instruction

Compiled by
Carol L. Brown
Texas Information Service
6504 Tracor Lane
Austin, Texas 78721

March 1973

This reference list updates the series of bibliographies in the earlier TIS package on Individualized Instruction produced January 1972. The documents included here are arranged topically under the following headings:

Programs and Practices
Instructional Materials
School and Classroom Organization
Differentiated Staffing
Instructional Staff Training

Every effort has been made to include documents relating to the broadest possible range of practices used in individualizing instruction. It is for this reason that documents on open education, differentiated staffing, flexible scheduling, programmed materials, etc. have been included

ERIC documents (those for which ED numbers are given) are available in microfiche in any full ERIC microfiche collection. They are also available in paper copy from:

Leasco Information Products, Inc.
4827 Rugby Avenue
Bethesda, Maryland 20014

for $3.29 per 100 pages or portion thereof or for $0.65 per title in microfiche.

PROGRAMS AND PRACTICES

Campbell, Patricia Ann. "Continuous Progress German." Foreign Language Annals 5:477-479. May 1972.

Reports on an individualized program in German at the Rose Hill Junior High School in Redmond, Washington.

Davis, Robert B.; Hollis, Loye Y. "Many Roads May Lead to Individualization." Educational Technology 12:5-7. March 1972.

A brief look at the theoretical basis for individualizing instruction and at some possible approaches to individualization.

Devault, M. Vere; Jung, Harold. "Individualization of Instruction in Mathematics--What is it?" Educational Technology 12:12-14. March 1972.

Discusses research background for why individualization in mathematics is needed. Role of school is seen as one of developing and providing appropriate alternatives environments for learners and assisting learners in self-understanding in utilizing the environment to enhance self.

Eiss, Albert F. "Individualized Learning." Science and Children 9:9-11. April 1972.

Discusses characteristics of individualized learning. Also provides a framework for teacher evaluation of an individualized learning program.

Ginsburg, Herbert. "Children's Knowledge and Individualized Instruction." Educational Technology 12:8-12. March 1972.

The author discusses what he considers a defect in individualized programs--a lack of assessment of a child's knowledge.

Grossman, Rose. "Individualizing Occurs When Thinking Becomes Visible." Educational Technology 12:36-39. March 1972.

Several different types of materials suitable for a math lab are discussed. Author shows how these materials help teacher to observe thought processes and thus more accurately gauge ability of students.

Herd, Arthur A. "Successful Practices in Individualized Instruction." Education Digest 37:37-40. March 1972.

Author describes four methods used in a New York high school's experimental program.

Kreamer, Ralph. "Schools Open Up." Pennsylvania Education 3:24-29. March/April 1972.

Article reviews the notion that each child is an individual and can be best educated if treated as an individual so he may progress at his own individual speed.

McLane, Lyn. "Individualized Mathematics Programs in Elementary Schools." Educational Technology 12:15-20. March 1972.

A quite comprehensive article on programs and practices in elementary individualized mathematics. Includes information on computer assisted instruction, continuous progress, and numerous other techniques.

McLoughlin, William P. "Individualization of Instruction vs. Nongrading." Phi Delta Kappan 53:378-381. February 1972.

Traces history of attempts to individualize instruction in a non-graded school. Also gives some specific procedures for implementing various aspects of an individualized program.

Rouda, Eileen M. "Success for All: An Adventure in Learning." Arithmetic Teacher 19:35-37. January 1972.

Some methods of achieving individualized instruction with underprivileged children in second grade mathematics are presented.

Smith, Larry E. "An Individualized Seminar in American Culture and English as a Second Language at the Culture Learning Institute, East-West Center." Paper presented at the Sixth Annual TESOL Convention, March 1, 1972. Washington, D.C. 18p.
ED 060 731

This report presents a description of a seminar in American culture and English-as-a-second-language which allows the students to learn what they want, at their own rate. The teacher serves as a guide and helps the student plan and evaluate his studies. Students may also assume the function of communicating knowledge or ability to each other. Instructional materials depend on the interests of the participants.

Trafton, Paul R. "Individualized Instruction: Developing Broadened Perspectives." Arithmetic Teacher 19:7-12.

The need for and approaches to individualized instruction in elementary school mathematics are discussed.

Wong, Opal. "An Account of Individualizing an Upper Elementary Math Program and Implementing a Math Lab." Educational Technology 12:32-34. March 1972.

Gives an account of a program involving team teaching and discusses games and other activities program uses.

Yelter, Clyde C. "Do Schools Need IPI? Yes." Educational Leadership. 29:491-494. March 1972.

Author, who is Director of Public Information at Research for Better Schools, Inc., reports that with Individually Prescribed Instruction children are eager to return to class, learn, and even take tests. Since teachers are no longer fact givers, they,and the principals, are able to be more responsive to students' needs. Bibliography.

INSTRUCTIONAL MATERIALS

Cardarelli, Sally M. "The LAP--A Feasible Vehicle of Individualization." Educational Technology. 12:23-29. March 1972.

The LAP (Learning Activity Package) is designed to take into account the rate of learning, style of learning and interest of the individual student. Components of LAPs are also defined and discussed separately.

Dowdeswell, W.H. "Modules and Minicourses." Journal of Biological Education. 6:23-28. February 1972.

Outlines the nature, purposes, and advantages of modular instruction. Summarizes the techniques of preparing modules found to be useful during a workshop of Canadian professors.

Heien, L.G. Student Goals and Sound Pedagogy: Some Different Directions for Programmed Materials. Portland, Oregon: Pacific Northwest Conference on Foreign Languages, 1972. 7p.
ED 060 712

This paper discusses an aspect of "Designed Learning," focusing on self-contained written programs dealing with grammatical structure at the concept or principle level, to be used by the student outside of class without the aid of an instructor.

Lange, Phil C. "What's the Score On: Programmed Instruction." Today's Education. 61:59. February 1972.

Statistics on number of schools that are using brand name programed learning texts and multimedia learning stations. Author believes that the trend in education toward individual learning brought about the use of programed instruction.

National Center for Educational Communication. New Products in Education. Prep-29. Washington: the Center, Division of of Practice Improvement. 37p.
ED 059 410

New educational products, broadly defined as validated output from educational R&D programs designed for practical application, are listed.

National Educational Association. "Curriculum Materials, 1972." Annual conference of the Association for Supervision and Curriculum Development. March 5-8, 1972, Philadelphia. 62p.
ED 061 637 Available only in MF.

This bibliography of over 1000 items contains sections on general curriculum development and materials, and on the subject areas traditionally found in public schools.

Swyers, Betty J. "Little Old Module-Maker--You." Grade Teacher. 89:4-8. May 1972.

Presents method to individualize instruction using the latest in modern technology through the use of multi-unit learning modules.

SCHOOL AND CLASSROOM ORGANIZATION

Calabro, Hilda. "Toward a More Flexible Learning Environment." High School Journal 55:205-207. February 1972.

The partnership between learning and environment in the process of education is one that is growing in emphasis today due to advances in new technology.

Hapgood, Marilyn. "Open Classrooms--Stimulus/Order/Beauty." NJEA Review. 45:14-17. May 1972.

Article describes an open classroom situation in England and emphasizes how strongly the student responds to the flexible learning situation.

Johnson, Sharon Counts. Flexible-Modular Scheduling. Educational Management Review Series, Number 4. Eugene: Oregon University, 1972. 10p. ED 061 580

This review surveys recent documents previously announced in RIE that are concerned with flexible-modular scheduling.

Neile, S.D. "The Open Area School and Independent Study." Journal of Educational Thought. 6:14-25. April 1972.

Discusses the pros and cons of the open area school and examines independent study as a complement to group instruction as exemplified in the open area school.

"The Open Space School: How Does It Work?" Education Digest. 37:15-18. February 1972.

A description of the physical facilities, curriculum, and personnel of the "open school."

Raichle, Henry F. "An Evaluation Report on the Modular Schedule of Northeast High School, St. Petersburg, Florida." Paper presented at the Florida Educational Research Association Conference, January 29, 1972, Ft. Lauderdale, Florida. 22p. ED 062 687

This report describes modular scheduling, student achievement, and student and teacher attitudes toward modular scheduling. Also discusses program costs, grade distribution, placement tests, dropout and attendance comparisons, class skipping, the open campus, and student use of unscheduled time and the media and resource centers.

Rogers, Vincent R. "Open Schools on the British Model." Educational Leadership. 29:401-404. February 1972.

Describes informal British schools and explains the reason for the great interest among American teachers, administrators, and parents in these informal primary schools.

DIFFERENTIATED STAFFING

Arends, Richard I.; Essig, Don M. "Unitized Structure and Differentiated Staffing in the Elementary School." DSP Progress Report No. 1: Structure and Staffing. Eugene, Oregon: Eugene School District 4, 1972. 28p.
ED 060 511

This report is the first in a series describing the background, theory, and progress of the Differentiated Staffing Project in the Eugene, Oregon, school district. Reviews history of the project and outlines the school organization. Questions both practical and theoretical pertaining to the unitized elementary school and differentiated staffing are discussed.

---. "The Role of the Principal and Curriculum Design Associate in the Unitized, Differentiated Staffing, Elementary School." DSP Progress Report No. 3: Leadership. Eugene, Oregon: Eugene School District 4, 1972. 22p.
ED 060 513

This report focuses on changes in roles within the differentiated staffing structure. Describes procedures followed and results achieved during the first year and a half of the project.

---. "The Role of the Teaching Assistant in the Unitized, Differentiated Staffing, Elementary School." DSP Progress Report No. 4. Eugene, Oregon: Eugene School District 4, 1972. 19p.
ED 060 514

This report discusses the effects of the addition of paid paraprofessionals or teaching assistants, to the differentiated staffing schools in Eugene.

---. "Instructional Change in the Unitized, Differentiated Staffing, Elementary School." DSP Progress Report No. 5: Instruction. Eugene, Oregon: Eugene School District 4, 1972. 20p.
ED 060 575

Several examples of new instructional patterns that emerged in the experimental schools are described as evidence that the project has contributed significantly to creating better learning environments for children.

2

Barbee, Don. "Administrative Implications of Differentiated Staffing." National Elementary Principal. 52:61-64. January 1972.

Describes administrators role in using a differentiated staffing program and also alternative models for implementation.

Cooper, James M. "Differentiated Staffing: Some Questions and Answers." National Elementary Principal. 52:49-54. January 1972.

Answers a number of important questions about differentiated staffing. Defines and describes the concept as well as giving AFT and NEA reactions to it and relating it to other current educational issues.

Edelfelt, Ray A. "Differentiated Staffing: Where Are We?" National Elementary Principal. 52:46-48. January 1972.

A state-of-the-art report on differentiated staffing. Discusses in particular problems involved in actually instituting a differentiated staffing arrangement.

English, Fenwick W. "Making Form Follow Function in Staffing Elementary Schools." National Elementary Principal. 52:55-60. January 1972.

Staffing is only one aspect of traditional schools that needs to be questioned.

Fielder, William R.; and others. "Differentiated Staffing: An Inservice Program." National Elementary Principal. 52:79-82. January 1972.

Article relates how one school district carried out an inservice training program designed to be focus, reality, product, people, and model congruent for its teachers.

Hunt, Les M. "Differentiated Staffing: Its Implications." Education Canada. 12:4-10. March 1972.

Author looks at some current trends and enumerates some strategies for implementing differentiated staffing.

Merrill, M. David. "Teacher or Teachers." Educational Forum. 36:351-357. March 1972.

This article makes a number of distinctions which may help to clarify some of the issues in differentiated staffing.

Reynolds, Larry. "Problems of Implementing Organizational Change in the Elementary School: A Case Study." Paper presented at AERA Annual Meeting, April 3-7, 1972, Chicago. 37p.
ED 062 716

Reports the attempts of an elementary school to implement innovative staffing and curriculum changes. Staff reorganization included a move away from self-contained classrooms, the restructuring of the role hierarchy, an increase in staff, some changes in role differentiation, and a reallocation of major decision making responsibilities.

Wiggins, Sam. (Ed.) Educational Personnel for Urban Schools; What Differentiated Staffing Can Do. Washington, D.C. American Association of Colleges for Teacher Education, 1972. 43p.
ED 062 307

The first section of this report concerns the need for an educational transformation having a new clarity of educational objectives and a different organization of manpower to achieve the goals of a human community with work skills and cooperative living. Part II deals with the concept of new roles in the learning-teaching process.

Wolkey, Eugene V. "Humanism in Differentiated Staffing." National Elementary Principal. 52:77-78. January 1972.

Describes the differentiated staffing program at Mary Harmon Weeks Elementary School in Kansas City, Missouri.

INSTRUCTIONAL STAFF TRAINING

Babin, Patrick. "Individualizing Instruction: The Supervisor's Role." Education Canada. 12:47-51. June 1972.

Although no one supervisor can be all things to all the people he serves, his role could well be that of a catalyst who can support the teacher in his professional development.

Braun, Frederick G. "Individualization: Making it Happen" Reading Teacher. 25:316-318. January 1972.

Describes a preservice education course that was individualized. Article grows from the belief that example is the best teacher: teachers who have experienced individualization themselves (as students) will be teachers who individualize.

Gougher, Ronald L., ed. Individualization of Instruction in Foreign Languages: A Practical Guide. Language and the Teacher: A Series in Applied Linguistics, Volume 13. Philadelphia, Pa.: Center for Curriculum Development, Inc., (401 Walnut Street) 1972. 192p. ($3.85)
ED 061 843

This volume, one in a continuing series in applied linguistics, contains 11 articles which guide the teacher seeking to understand and implement the individualization of instruction in the classroom. Written for language teachers at every instructional level, this text views individualized instruction as a realistic goal, emphasizing the articulation of performance objectives according to the optimum learning rates and interests of individual students.

Hooten, Joseph R.; Mahaffey, Michael L. "Individualizing Instruction in Elementary School Mathematics: Preparing the Teacher for the Task." Educational Technology. 12:46-47. March 1972.

Discusses preparation of teachers at University of Georgia according to a list of teacher competencies needed for individualizing elementary math.

James, Helen J. "Strengthening Reading at the Secondary Level." Paper presented at the annual meeting of International Reading Association, May 10-13, 1972, Detroit. 10p.
ED 063 092

The effects of five secondary school individualized in-service training programs on classroom reading skills instruction are compared.

Kallenbach, Warren; Carmichael, Dennis. "The California Teacher Development Project for Systems of Individualized Instruction: Individualizing Inservice Education." Speech given before the Annual Meeting of the AERA, April 1972, Chicago. 14p.
ED 062 297

The major objectives of this project were (a) to facilitate teacher role changes necessary for transition from a group-paced to an individualized program, (b) to develop a parent information and orientation program, (c) to identify needs necessary for a transition of teacher roles, and (d) to develop an instrument to analyze teacher performance in systems of individualized instruction. Results showed a significant positive change.

Windley, Vivian O. "A New Look at Teacher Education." Urban Review. 514:3-11. March 1972.

Wray, Ralph D. "A Package Approach to Desired Outcomes in Career Education." Journal of Business Education. 47:153-154. January 1972.

Reports on a workshop that provided teachers with an opportunity to develop a career education learning activity package.

REGIONAL SERVICE CENTER MATERIALS: INDIVIDUALIZED INSTRUCTION

March 1973

The following publications are available at all ESCs:

National Center for Educational Communication. Individualizing Instruction: PREP 16. Washington, D.C.: Office of Education, the Center. (ED 041 185)

Texas Information Service. Individualized Instruction: Selected Elements, Programs, and Instructional Materials. Austin: the Service, January 1972.

Each of the following Centers has available for loan within the region 6 filmstrips and tapes by Jack Edling (Teaching Research Division, Oregon State System of Higher Education). Individualized Instruction:

Region III, Victoria
Region V, Beaumont
Region VIII, Mt. Pleasant
Region IX, Wichita Falls
Region X, Richardson
Region XI, Fort Worth
Region XII, Waco
Region XIII, Austin
Region XVI, Amarillo
Region XVII, Lubbock
Region XIX, El Paso
Region XX, San Antonio

Additional publications available at individual ESCs:

Region VII, Kilgore

Robert McKibben. "Why Individualized Instruction?" (7p.)
Dwane Russell. "A Framework for Individualization." (7p.)

Region IX, Wichita Falls

Serena Wade, "Individualized Instruction" (ERIC at Stanford Occasional Paper)

Jack V. Edling, Individualized Instruction: A Manual for Administrations

NSPRA, "Individualization in Schools: the Challenge and the Options."

Virginia Goldsmith, "Developing a Teaching File to Aid in Individualizing Instruction for Performance Accountability." (Educators Progress Service, Inc.)

Alma Blassingame; Elouise Pugh. "Individualized Instruction." (unpublished research paper).

Region XI, Fort Worth

"Individualized Instruction: The Means and Ends, How and Why." (118p.)

Ronnie Martin. "What is a Learning Packet?" (106p.)

Region XV, San Angelo

Single Concept Learning Packages:
- Elementary Reading (32 packages)
- Elementary Math (50 packages)
- Junior High Prevocational (25 packages)
- Junior High Social Studies (16 packages)
- Junior High Math (3 packages)
- Junior High Language Arts (4 packages)

Region XVIII, Midland

Jim Lewis, "A Humanistic Approach to Teaching--Learning." (28p.)

Region XIX, El Paso

Grace Rotzel. The School in Rose Valley. Baltimore: the Johns Hopkins Press.

Gardner Swenson, et al. Providing for Flexibility in Scheduling and Instruction. Englewood Cliffs, N.J.: Prentice Hall, Inc.

Arthur M. Coombs, Jr., et al. Variable Modular Scheduling. New York, N.Y.: Benziger, Inc.

Educational Facilities Laboratories, Inc. Schools without Walls. New York, the Lab.

Daniel M. Purdom. Exploring the Nongraded School. Dayton, Ohio: I/D/E/A.

Joseph Featherstone. Schools where Children Learn. New York, Liveright.

Caleb Gattegno. What We Owe Children. New York, Outerbridge and Dienstfrey.

Donna K. Stahl, et al. Individualized Teaching in Elementary Schools. West Nyack, N.Y.: Parker Publishing Company, Inc.

Alvin Hertzberg. Schools are for Children. New York,: Schocken Books.

Herbert R. Kohl. The Open Classroom. New York: Random House.

AASA. Open Space Schools. Washington, D.C.: the Association.

General Programed Teaching. Designing Effective Instruction. Palo Alto, California.

Region XX, San Antonio

Listerner Cassette Series:

- Album 1: Individualizing Reading
- Album 7: Strategies for Personalizing Learning
- Album 8: Involving the Child in Math
- Album 10: Individualizing Reading Practices
- Album 11: Personalizing Math
- Album 9: Individualizing Teaching & Learning

IGE (Individually Guided Education) Publications:

- IGE Implementation Guide
- Learning Styles
- League Handbook
- Multiage Grouping
- Principal's Handbook
- Material Guide
- The Learning Program
- Unit Operation and Roles
- Communicating with Parents
- What's It Like to Be in IGE
- IGE: A Reach for Tomorrow
- Building the IGE Learning Program
- Organized for Learning

IGE Filmstrip kit

NEW COLLECTIONS OF OBJECTIVES!
COMING: COLLECTIONS OF OBJECTIVES—
BASED TESTS!

Instructional Objectives Exchange
Box 24095
Los Angeles, California 90024

Bulk Rate
U.S. Postage
PAID
Los Angeles
Permit No. 28625

IOX CATALOG OF OBJECTIVE COLLECTIONS AND RELATED MATERIAL

CURRENT LISTING—WINTER, 1972

1R **LANGUAGE ARTS: THE DECODING SKILLS OF READING,** K-12 — covers basic decoding (phonics) skills including visual/auditory discrimination, sight vocabulary, recognition of letters by name, recognition of sounds and their association with letters, and pronounciation of letter combinations and words. (118 objectives)

2R **LANGUAGE ARTS: READING COMPREHENSION SKILLS,** K-12 — includes objectives which cover literal and interpretive comprehension of pictorial and written materials, dealing with unfamiliar vocabulary/word meaning in written material, and comprehension of non-written materials (visual and/or aural). (91 objectives)

3R **LANGUAGE ARTS: STRUCTURAL ANALYSIS,** K-12 — covers individual word forms (past and present inflections, plurals, derivational affixes and the possessive suffix), multiple word forms (contractions, abbreviations, acronyms, and compound words), syllabication, and word etymology. (88 objectives)

4R **LANGUAGE ARTS: COMPOSITION SKILLS,** K-12 — includes paragraph form, expository and narrative/descriptive paragraph development, letter writing, story writing, figurative/descriptive language and poetry writing—metrical patterns, rhyme schemes, and verse forms. (171 objectives)

5R **LANGUAGE ARTS: STUDY AND REFERENCE SKILLS,** K-12 — covers the study skills of following directions, note-taking, organizing, and summarizing. Reference skills deal with alphabetized material, library skills, the use of common reference books and mass media sources for locating, checking, and extracting information. (117 objectives)

6R **LANGUAGE ARTS: LISTENING, ORAL EXPRESSION, AND JOURNALISM,** K-12—Listening features attending-responding, comprehension, interpretation, and critical listening; oral expression includes techniques of presentation, public speaking, oral interpretation, dramatic expression, and debate; journalism includes journalistic form and style, and the writing of news stories. (97 objectives)

7R **LANGUAGE ARTS: TRADITIONAL GRAMMAR,** K-12 — covers grammatical form (form and meaning of parts of speech) and sentence analysis (the function of parts of speech within sentences, parts of the sentence and sentence patterns, sentence types, and kinds of sentence structure). (249 objectives)

8R **LANGUAGE ARTS: TRANSFORMATIONAL GRAMMAR,** K-12 — includes objectives which cover sentence components (phrase structure rules) and transformations (rules for the expansion of lead sentences). All terms and rules are defined in the language of traditional grammar, for easy understanding. (108 objectives)

9R **LANGUAGE ARTS: MECHANICS AND USAGE,** K-12 — usage covers sentence sense, diction, pronoun reference, subject-verb agreement, exactness, wordiness, and general sentence effectiveness; mechanics covers capitalization, punctuation, abbreviations, colon, semi colon, and other internal or end marks. (74 objectives)

10 **ENGLISH LITERATURE,** 7-9 — covers objectives designed to develop the student's ability to analyze literature and evaluate its effects. Content areas include poetry and the novel. (16 objectives)

11 **ENGLISH LITERATURE,** 10-12 — covers objectives designed to develop the student's ability to analyze literature and evaluate its effects. Content areas include drama, short story, poetry, the novel, and non-fiction. (34 objectives)

REVISED 12R **MATH: SYMBOLISM AND NOTATION,** K-9 — covers objectives on sets, numeration, statements, sentences, and logic. Includes new and revised material in a new organization, and format. (123 objectives)

REVISED 13R **MATH: NUMBERS AND THEIR OPERATIONS,** K-9 — objectives are organized under the topics of integers, rational numbers, operations and properties. Includes new and revised material in a new organization and format. (166 objectives)

REVISED 14R **MATH: FIGURE AND OBJECT CHARACTERISTICS,** K-9 — contains objectives on measurement, including the metric system and measurement with no standard devices, and geometry (properties of points, plane curves, planes, plane closed figures, specific plane geometric figures, geometric constructions, and geometric solids). (149 objectives)

REVISED 15R **MATH: DATA RELATIONSHIPS,** K-9 — covers graphs, ratios, proportions, statistics, and probability. Includes new and revised material in a new organization and format. (82 objectives)

16 **BUSINESS EDUCATION** (Bookkeeping), 10-12 — covers journalizing, posting, preparing a trial balance, financial statement, balancing, and ruling accounts. Banking transactions, cash transactions, payroll records, recording accrual deferred expenses and depreciation, and bookkeeping vocabulary are also included. (17 objectives)

17 **BUSINESS EDUCATION** (Business Law), 10-12 — an introduction to the basic concepts and skills of business law. The objectives are organized in the following categories: legal foundations, the laws of contracts, property, negotiable instruments, insurance, and agency. (37 objectives)

18 **BUSINESS EDUCATION** (General Business), 10-12 — objectives cover content areas of money and banking, consumer buying, credit, economic risks (insurance), money management, communication services, and transportation and shipping services. (35 objectives)

19 **BUSINESS EDUCATION** (Secretarial Skills), 10-12 — objectives emphasize basic stenographic skills, typing, shorthand, office machines, filing, telephone answering, processing, and basic forms of business English. Also included are fundamentals of office behavior and appearance. (46 objectives)

20 **HOME ECONOMICS**, 7-9 — objectives cover the following categories: child development, clothing and textiles, consumer practices, foods and nutrition, home management and family economics. (74 objectives)

21 **HOME ECONOMICS**, 10-12 — objectives in this collection fall into the following categories: child development, clothing and textiles, consumer practices, foods and nutrition, home management and family economics. (48 objectives)

22 **AUTO MECHANICS**, 10-12 — objectives reflect the major concepts in a comprehensive course in automotive tune-up and repair. (185 objectives)

23 **ELECTRONICS**, 7-12 — introductory objectives, organized into the following categories: fundamentals, direct current circuits, primary and secondary batteries, magnetism, electro-magnetic induction, direct current generators, alternating current single phase circuits, transformers and regulators. (50 objectives)

24 **GENERAL METALS**, 7-12 — categories include: properties of metal, operations and functions, cutting and shearing, filing, cutting holes, grinding, bending metal, forming metal, metal spinning, threaded fasteners, soldering, riveting, sheet metal seams, polishing and buffing metal surfaces, decorating metal. (90 objectives)

25 **MECHANICAL DRAWING**, 7-12 — covered are: basic drafting skills, beginning lettering, making the drawing, orthographic projections, dimensioning, scale drawing, pictorial drawing, section drawing, auxiliary views, thread conventions and symbols, assembly, and detail drawing, reference and constructions. (85 objectives)

26 **WOODWORKING**, 7-12 — covers basic skills and emphasizes the processes involved in woodworking. Included are the following categories: tool care and use, rough stock, squaring up stock, making and fastening joints, and miscellaneous finishing processes. (56 objectives)

27 **AMERICAN HISTORY**, 7-12 — objectives emphasize political, social, and economic concepts, problems and fundamental issues in American history from the Pre-Revolutionary period to modern times. (19 objectives)

28 **GEOGRAPHY**, K-9 — objectives reflect major social science concepts in the discipline of geography. (97 objectives)

29 **BIOLOGY**, 10-12—emphasizes processes of inquiry and laboratory work, either directly or indirectly. It is based on the Biological Sciences Curriculum Study (BSCS), but the objectives are designed to make them serviceable to any program. (15 objectives)

30 **SPANISH**, 7-12 — an introduction to the basic concepts and skills structural to the discipline of Spanish. Includes objectives covering key functions of understanding, speaking, reading, and writing. (74 objectives)

31 **MUSIC**, K-6 — objectives reflect major concepts, fundamentals, and applications in music appreciation. (97 objectives)

32 **HEALTH** (Nutrition), K-6 — covers daily diet based on the four food groups, nutrients from food, how the body uses food, food processing, consumer education in advertising and merchandizing, cultural and social uses of food in man's environment. (24 objectives)

33 **PHYSICAL EDUCATION**, K-3 — content areas include perceptual motor, sensory motor, locomotor skills, non-locomotor skills, balance, eye-foot skills, eye-hand skills, and dance. (44 objectives)

REVISED 34R **SELF CONCEPT**, K-12 — contains affective objectives with self report inventories (direct, indirect) or observational inventories which deal with the learner's self concept. Dimensions employed are peer, scholastic, family, and general. (30 objectives)

REVISED 35R **ATTITUDE TOWARD SCHOOL**, K-12 — contains affective objectives with self report inventories (direct, indirect) or observational inventories which deal with the learner's self concept. Dimensions include attitudes toward teacher, school subjects, learning, peers, social structure and climate, and general. (46 objectives)

36 **ATTITUDES RELATED TO TOLERANCE**, 9-12 — includes affective objectives and measures (self report or observational inventory) related to "tolerance." Attitudes toward diversity of experiences and ethnic groups form the bases for the measures. (13 objectives)

37 **JUDGMENT: DEDUCTIVE LOGIC AND ASSUMPTION RECOGNITION**, 7-12 — a cognitive collection of objectives which deals with the student's ability to make judgments based on logical analysis in emotional and nonemotional cases. An inventory is provided to measure each objective. (7 objectives)

38 **ANTHROPOLOGY**, 4-6 — an introduction to anthropological concepts: using societies and cultures commonly studied in the elementary curriculum. The content areas include man as a unique animal, fossil man and prehistory, the record of culture, the nature of culture, genetics, evolution, and race. (42 objectives)

39 **SOCIOLOGY**, 4-9 — an introduction to basic sociological concepts and terminology including the method of sociology, social organization, social processes and change. While mostly appropriate to grades 7-9, the material may be used in grades 4-6 with the appropriate modifications. (33 objectives)

40 **EARLY CHILDHOOD EDUCATION** — a collection of objectives for use with children in nursery schools, preschools, Head Start programs, and kindergartens. Selected topics from the arts, arithmetic, language arts, science, and social personal needs are covered. (approximately 300 objectives)

NEW 41 **KNOWLEDGE AND ATTITUDES OF DRUG USAGE**, 4-12—includes measures focusing on drug usage. Included are knowledge, inferential, instructional information, basis for belief, and observational measures. (14 objectives)

NEW 42 **GOVERNMENT**, 10-12 — includes objectives in the following categories: Introduction to Government, Our Colonial Heritage, The American Constitution, Government and The Citizen, American Politics, The Congress, The Presidency and the Executive, The Federal Judiciary, and State and Local Government. (38 objectives)

NEW 43 **LIFE SCIENCES**, K-6 — includes objectives about plants and animals as individual organisms and as organisms which interact with each other and their environment. The objectives emphasize life science principles rather than field and natural history facts. (over 100 objectives)

NEW 44 **PHYSICS**, 9-12 — covers concepts and skills basic to secondary school physics. Categories include kinematics and dynamics, momentum and energy, heat and thermodynamics, waves and light, electricity and magnetism, and atomic physics. (105 objectives)

NEW 45 **GEOMETRY**, 9-12 — comprehensive set of objectives covering the following topics: sets, points, lines and planes, angles, parallelism and perpendicularity, triangles, congruences and inequalities, trigonometry, logic and proof, solids, areas and volumes. (200 objectives)

101 **AN EVALUATION GUIDEBOOK** by W. James Popham ($2.50) — guidelines for the educational evaluator, including measuring affective outcomes, criterion-referenced measurement, needs assessment, measurable objectives, unobtrusive measures, formative and summative evaluation, detecting unanticipated outcomes, item sampling, and alternative evaluation models.

102 **PRIORITIES PLANNING** by Robert E. Stake ($1.00) — describes a step-by-step scheme for judging the importance of individual objectives, such as those found in the IOX objective collections, on the basis of four key criteria.

103 **DETERMINING TEST LENGTH** by Jason Millman ($1.00) — for those who must answer the question, "How many items per objective should be in the test?" This technical paper offers a straightforward solution strategy plus tables for implementation.

104 **DESIGNING TEACHER EVALUATION SYSTEMS** by W. James Popham ($1.25) — Although this booklet was written specifically as a series of suggestions for implementing California's new teacher evaluation law (the Stull Bill), national concern with similar legislation has resulted in considerable interest in the document.

COMING SOON

IOX OBJECTIVES-BASED TEST COLLECTIONS
Sets of low cost pre-printed spirit masters, each test based on an explicit instructional objective. Tests can be selected from these collections of criterion-referenced measures and duplicated locally for use in diagnosis and evaluation. Two forms of each one- or two-page test are available. The initial test collections will be elementary reading and mathematics.

WATCH FOR FUTURE ANNOUNCEMENTS

ORDER FORM

Included in each collection are 1-6 sample test items per objective.
Please order all collections by number and title. Indicate amount of each. Mail to Instructional Objectives Exchange, BOX 24095, Los Angeles, California 90024
ORDER: _____

Each collection (items # 1-45) costs $8.00 plus 2.5% for postage and handling. Postage and handling costs are included in prices for items #101-104. Discounts on quantity purchases (e.g., for methodology classes or district-wide distribution) are available by request. All orders must be accompanied by a purchase order number or check. Make checks payable to: Instructional Objectives Exchange.

Name _____ Address _____

City _____ State _____ Zip Code _____

Signature _____